THE
PEDAGOGICAL SEMINARY

Founded and Edited by G. Stanley Hall

Vol. XXVIII MARCH, 1921 No. 1

IMITATION AND THE CONDITIONED REFLEX

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IMPORTANCE OF IMITATION

One of the first things which strikes the observer of children and adults alike is what seems a universal tendency to do as others do, to imitate. Everywhere may be seen examples of action apparently done not because the individual has himself decided that such an action fits the particular situation but because such and such another individual is performing or has performed the same action. The sheep which turns aside in the road will, if the man or dog in charge is not alert, take with it half the flock before it can be turned back. The boy coming home from school who throws a stone at a cat will be joined by the rest of the boys who are passing. The lady who goes into a store, enquires anxiously what "is being worn" and, however her heart is set upon a garment of a particular kind, she will instantly reject it if it be "out of fashion." If the members of my "set" wear their trousers turned up, mine are turned up. If they wear them down, mine are turned down. If they eat asparagus with their fingers, I eat mine with my fingers; if with a fork, I do the same. If they rise when the Governor of the State begins a speech, I rise, even though I am ignorant of the custom. And, almost automatically, I sit when they sit. It is almost platitudinous to say that imitation plays a most profound part in our relations with our fellow men, and is responsible in a very large degree for the difference between the hermit and the member of a state. Other factors undoubtedly enter in, but it is certain that not a small part of the effect of our fellow men upon us is due to the fact that they serve as copies for our own actions. The philosophers have from earliest time recognized the im-

portance of such influence. From Plato down they have insisted upon the necessity for good copies, upon the force of good and bad example. And from time immemorial imitation has been used in education, consciously and unconsciously, and its importance stressed by those who concerned themselves with the rationale of instruction. A moment's thought will convince of the large part which it plays in school life. From arrival in the kindergarten the little boy begins to be with other children and to do as they do; he begins to find that there are certain things which he cannot do but which can be done by the teacher. Soon he tries to do as the teacher does. When the teacher writes a beautifully shaped A or a beautifully rounded a upon his paper, he watches with eager eyes to try and make one like it. When the teacher sings, he tries to sing like her. When she writes something on the blackboard and says "cow," the child says "cow." When she writes a figure and says "seven," the child says "seven." If she straightens up her back and says that "she wants to see the class sit up," the children look at her and each other and "sit up." When the teacher takes the class into the hall or road to teach them their drill, she must first go through the exercises. For no telling the children what to do will be as effective as telling them what she is going to do and doing it. Later when the class is learning manual work, the instructor must first take the tool and "pattern." In the French lesson the master must first say the French word. Often when the class does not seem able to perform any activity, the teacher will bring out the best pupil for a copy.[1] This is true not only of the teacher and of school subjects. Almost every action which the boy performs is completely modified by the way the other boys do it. His dress, his talk, even his walk are dictated by the precepts of good form. Imitation is of the other pupils at least as much as of the teacher. No detail is too large or too small, nothing too serious or too trivial. Our whole system of education, whether in the formal stage of school or in the more desultory stages of home and the street, is shot through and through with actions performed in reproduction of the actions of others. By its very universality and apparent simplicity this class of action has attracted the attention of the educator. But the simple answers given to what seemed a relatively simple problem do not satisfy the demands of modern thought, which sees in simplicity the sign to cry halt and investigate. There is here presented an analysis of the seemingly simple process of imitation and an attempt to show that it consists of highly complex integra-

[1] Cf. The Fugleman in the army.

tions of a peculiar type of conditioned reflex; incidentally certain previous theories will be criticized as may be necessary for the better explanation of the view proposed.

NATURE OF IMITATION

The fundamental thing about an imitative response is that it is similar to the stimulus which produced it. Putting this the other way round, the fundamental thing about a stimulus which produces an imitative response is that it is similar to the response which it evokes. I may imitate the sound of a locomotive more or less successfully, the gait of a man walking down the street, the action of a crowd taking off their hats. In each case the response I make is in some way similar to the stimulus. Take now a reflex of the so-called "chain" type,[2] where a stimulus A produces response B which acts as a stimulus to response C, which again acts as a stimulus to response D, etc. An example of this is, according to Sherrington, to be found in the act of deglutition and the crawling of the earthworm. Suppose, then, that of the chain B, C, D, . . . set on foot by the stimulus A, B and C are identical; then there results a stimulus A producing a reaction B which acts again as the stimulus for the same reaction B. Let us take an example. When a man feeds a printing press he goes through a complicated series of movements each of which when completed serves as the stimulus for the next movement. He would find it almost impossible to stop instantly at the middle of the process in putting in a sheet of paper, because, by force of habit, as we say, the one movement leads on to the next. Now when a complete unit of putting in one piece of paper and putting the hand back is finished, the man is in exactly the same position as he was before going through the process at all, and he automatically takes the next piece of paper and puts it into the machine. The activity is circular; when once completed it tends to be repeated. Now in this case there are a large number of extraneous stimuli; there is the stimulus of the noise of the machine, the sight, weight, and "feel," of the paper, etc., and all those are necessary for the movement. Further, between the action which serves as a stimulus and the repetition of action there is the whole series of movements constituting the unit. But suppose that our unit is very small so that the response acts as a direct stimulus for and identical response. Take the case of the child to whom increase of pressure on the hands acts as a stimulus to the movement of pushing away. Then when he

[2] Herrick, Principles of Neurology, Chapter iv.

pushes on the wall, the harder he pushes, the more pressure there will be on his hands, and so he will push still harder until he has reached his physiological limits or until some other stimulus intervened. This is a pure example of what is known as "circular reaction," where the response acts as a stimulus for furthering similar activity. Such circular activity may be produced in different ways. There is the case of a crying baby. Originally the stimulus was perhaps a pain, but as the child cries he hears himself crying. Then we have S producing R, and with it the auditory stimulus S_2, the sound of the baby's own cry in the baby's ears. Hence by the law of substitution of stimuli, S_2, the auditory stimulus, produces R, the reaction, and the more the baby cries the more he cries. Now it does not make any difference to the infant whether the auditory stimulus, once established, comes from himself or from another child. Whenever he hears the sound of crying he will cry, until the reflex has disappeared by "lack of support" from the primary stimulus,[3] that is, until he grows up and is not accustomed to hear himself crying. That is why the sound of a crying baby does not bring shrieks from a company of adults; the reflex has died out from lack of use.[3] A similar phenomenon may be observed with animals. One restive dog will keep the whole dog population of the district barking. A crowing cock will start all other cocks crowing. Action of this type may be regarded as the elementary unit of imitation. It depends upon the fact that man and animals have senses by which they can perceive the reactions to stimuli from the same or other senses. It is a particular kind of conditioned reflex, where the response acts as a secondary stimulus. It comes from a psychological inbreeding, a kind of parthenogenesis of behavior.

There is another way in which imitation may come about, but by slightly different means. Suppose that a herd of cattle is feeding together and something occurs to startle them, perhaps the sound of a gun. They all manifest signs of fear and run in the opposite direction. Any individual, A, will, as he runs, see his fellows running, and this will always have occurred whatever the stimulus. Hence the sight of a running fellow will act as the conditioned stimulus for the activity of running. If now I drive a frightened animal into the field with the originally placid herd, it is very likely that the whole body will be stirred up to activity, especially at night when there are fewer conflicting stimuli. Thus Breed[4] reports that pigeons placed in a cage where they could

[3] V. Yerkes & Morgulis, Psychological Bulletin, 1909, pp. 257-273.
[4] Behavior Monographs, No. 1.

see other pigeons eating, pecked the ground although no food was given them. The sight of other birds pecking had become a conditioned stimulus for pecking. Here the imitation is direct from other animals, and does not depend on the animal's own activity.

There are still other ways in which imitation may arise, but all depend upon the fundamental process of the conditioned reflex. For instance, the child lying in the cradle makes many combinations of muscular responses to various stimuli, such as kicking or gurgling.[5] The whole organism may be thrown into an intense activity by a single strong stimulus. If then the mother gurgles at the same time, gurgling on some future occasion may cause kicking or a dozen other actions from the repertoire, and no one then says that the child is imitating. But if the mother happens to gurgle at the same time as the child is gurgling and making few other movements, and gurgles more frequently when the child gurgles, then after a time the gurgle from the mother will call forth the "imitative" gurgle from the child. Here the original secondary stimulus comes from without, and we have a kind of converse of type one. There may be other types, but all will be found to depend, as these do, upon the establishment of a conditioned reflex where the secondary stimulus is similar to the reaction. Imitative action may be defined as *action involving a conditioned reflex the secondary stimulus of which is similar to the reaction.*

IMITATION NOT AN INSTINCT

There is thus no reason to assume that the child has a special faculty or innate disposition to imitate. James talks of "the instinct of imitating gesture" and includes imitation in his list of "special human instincts" handed down by heredity. This is not the place for an examination of the general theory of instinct; but in imitation at least we have an activity which was originally classed as a hereditary reaction and which must now be classed as a learned reaction. In fact, we can see no essential difference between imitation and any other conditioned reflex activity, the only distinction being the minor one of the similarity between the secondary stimulus and the response. Apart from this, the imitative reflex may be treated exactly as any other. It may be woven into the fabric of our activities—integrated—or it may be left independent. I may form a whole complex of imitative actions as in the complicated play of older children, or I may leave

[5] This example is due to Doctor Dearborn.

one reflex entirely unconnected with all the rest of my personality, entirely unintegrated, as when I cross my arms after another does so. Integration in general has been treated very fully in the literature; but as the integration of imitative actions is of particular interest, this will next be dealt with.

INTEGRATION OF IMITATIVE ACTIONS

Take a simple example of a childish imitation. "George. Age 1 year, 8 months. The other day there was a man at our house fixing the wall paper in one of the rooms. That evening George took a small camp chair and, pushing it to the wall, got up in it and rubbed the paper up and down. He did this two or three times."[6] Or "Emma. Age 2 years, 4 months. Emma saw a girl out of doors throwing up a ball, running to catch it and laughing. For an hour or more after, Emma ran about the room, making believe to catch it, running about and laughing."[7]

These two examples show the general working of the mechanism described. The act once imitated serves as its own stimulus. The little boy went on with the whole cycle "two or three times." The little girl ran about "for an hour or more." Another little boy who had seen his mother wash the windows "would not stop till his mother told him to—at the end of an hour I think." Thorndike's cat is famous, which discovered it could climb on to a table, and did so until Thorndike grew "tired of the game." The general connection between imitation and repetition is very marked. In fact it is hard to say where one ends and the other begins, whether repetition is not "self-imitation" just as often as it is response to repeated stimuli. Here we have repetition of an action imitated from others; this may be either response to repeated stimuli or imitation of self, the primary and secondary stimuli being identical. In either case the examples show the way in which integration adds step by step to the system.

This method by which imitative units combine with themselves to form "higher units" of conduct is well illustrated in the following simple example. "Bertha. Age 1 year. Bertha's mother dips the comb in the wash basin when she combs Bertha's hair. If Bertha is given a comb she strikes the edge of the basin with it, but puts it in her mouth as often as to her head."[8] Here we have originally the visual stimulus of a certain motion of the arm (mother's) when a comb is in the hand. The imitation seems to arise somewhat as

[6] Child Observations, Russell, No. 42 (Heath's Pedagogical Library).
[7] *Ibid.*, 121; see also 120 and 24.
[8] Russell, *op. cit.*, 2.

follows: primary stimulus,[9] say sight of a bright object, reaction movement of the arm, secondary stimulus sight of arm moving. S_2, the sight of the arm moving will at first provoke the reaction of moving the arm again. This will soon become inhibited because the original primary stimulus will be absent, and thus the reaction will die out. Now comes the fresh stimulus of the comb, which at the same time substitutes "hand with a comb" for "moving hand" as the exciting stimulus, and inhibits[10] the inhibition of the original reflex. There is now operative and uninhibited the reaction of moving the arm at the visual stimulus of a comb in the hand. When the child is given a comb she moves her arm. It is notable, however, that she "puts it to her mouth as often as to her head," i. e., the movements she makes are not new ones but those she has already performed. She had learned already by trial and error to strike something with an object in her hand, to bring the object to her head and to her mouth. When she had seen her hand moving it had been with these motions, and therefore by conditioned reflex it is these motions which she reproduces. She did not "learn" the peculiar motion of combing the hair by imitation. She did not "copy" her mother's movement but reacted with a movement already in her repertoire.

This comparatively simple imitative act is found then to consist of the following processes: (1) An imitative conditioned reflex is formed, (2) this is inhibited, (3) the inhibition is inhibited by a new stimulus and at the same time (4) a new conditioned reflex is formed, leaving (5) the imitative reflex the stimulus for which is motion of the hand holding a certain object. Such[11] imitative reflexes are very common.[12] Yet another step in the integration comes when the child on seeing the object puts it in his hand. E. g., "Roy. Age 2 years, 9 months. Roy went across the street where carpenters were

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[9] This explanation is of course only tentative and schematic. There are not enough experimental data to make anything else possible.

[10] See Pavlov, J. P., L'Inhibition du Reflex Conditionnel, *Journal de Psychologie,* Jan. and Fev., 1913.

[11] If this seems too complicated, and if the old "instinct of imitation" be preferred on the ground of simplicity, it should be remembered that to regard the psychological action as necessarily simple would be as great an error as so to consider the physiological action. A movement of the arm involves hundreds, perhaps thousands of nerve fibres, and hundreds of muscle fibres. The process is so complicated that all its details cannot possibly be grasped intellectually as a whole. The psychological explanation we have given is infinitely more simple than the known physiological facts. For its simplicity it may perhaps be assailed but not for its complexity.

[12] E. g., Russell, Nos. 182, 183, et. passim.

building a house. He saw a chisel used. When he came home, without stopping to have his coat taken off he got a case knife and toy mallet and used them as he seen the chisel used." Here we see the imitative units combining to form a higher unit, which is imitation of the *carpenter*. He had acquired the reflex of walking to a thing and grasping it in much the same way as above described of the child with the comb. This is tacked on to the object—stimulus reaction to the carpenter. When the boy reaches home he goes for the chisel and imitates the carpenter. Here is integration into a small imitative system. By conditioned reflexes such smaller systems may be combined into larger and yet larger wholes, the whole retaining a predominantly imitative flavor. Thus a daughter of the "idle rich" may play lady's maid, the combing motion making part of the whole imitative pattern each detail of which was originally formed in the manner described. Such integration is, of course, the way in which all mental life is built up, and the process is, as we have insisted, not peculiar to imitative reflexes. Its results range, in the case if imitation, from the simple action of the infant discussed to the complex games which often last weeks or months among older children.[13] Further there is a gradual progress in integration. At first it is the object which is the starting point. A girls sees a brush under the table and begins to sweep with it like her mother. Here it is difficult to say whether the act is "reflex" or whether the mother is being imitated because the little girl wants to be "grown up." In such cases the observer usually says "she found a brush," "she found a pin," etc. Similarly, two young children asked for toothpicks after meals and used them "very intelligently." Here is a step further on towards a "conscious purpose." Still, however, the imitation seems to be connected with the object as much as with the person, i. e., it is half way between the fully motivated imitation of a policeman and the simple activity of crying when another child cries. In the former case, the child wants to be a policeman. He goes around the house looking for a hat like the policeman's hat, a whistle like the policeman's whistle, etc. It is indeed probably the sight of the policeman on his way home from school that determines his game, or perhaps the sight of a policeman in a book. Some stimulus there certainly is, but this is more directly connected with the *person* imitated than with an object. The progress is from an object as stimulus which implies a mere, uninte-

[13] See Russell, No. 1,199 for a good example, where a model village was built and the activities connected with it lasted a whole term.

grated motion, to the fully integrated activity which centers about imitation of a living individual.

The discussion of the integration of imitative activities makes yet clearer the point upon which insistence has been laid, namely that an imitative activity, except for the minor difference of similarity between the secondary stimulus and the response, is ordinary conditioned reflex activity. Imitative reflexes can be built up into systems just as any other. Just as in the rest of life, the imitative stimulus "recedes" with development, from the immediate presentation of the senses to what is called an ideal (the policeman in the case taken).[14] Later the ideal itself "recedes" in the same way.[15] But that is a matter for ethical psychology. We turn next to a few points in connection with imitative actions.

BEHAVIOR OF INTEGRATED IMITATIONS

Several interesting points come up on examination of the examples which Russell gives of integrated imitations. The systems are wholly arbitrary, depending on the previous experience of the child. For example, number 158 describes a boy who was a horse and would not eat candy. Number 160 describes another boy who was also a horse but will eat a cooky, but he must eat it "like a horse." Like every other form of reaction to experience, imitation is "selective" depending on the previous experience of the organism.

If the system includes some recalcitrant detail, which is contradicted or inhibited by an unavoidable fact, the whole may become inoperative, being temporarily inhibited. The boy who is playing horse stops playing, goes into the house, and gets his candy. At times when the new little "world" and previous experience occasionally brought up by the adults for this very purpose are so contradictory that they cannot exist together, there is a permanent inhibition of the entire system. This happened in the case of[16] Clarence who "made believe" he was a horse so constantly that it became troublesome, and his parents thought he must be "broken of it." So they told him that if he was a horse he must stay in the stall with the horses. This did not suit him, so he said "he would be a kitty," when he was told he must catch mice. The logic of this appealed to him, and "since that time he has not played that he was a horse or a cat." This shows the solidarity of the unit "horse—integration." When there is a stimu-

[14] Holt, E. B., The Freudian Wish.

[15] There is always at the same time an immediate stimulus which is part of the nexus of stimuli forming the total stimulus or situation.

[16] No. 226.

lus—his governess' reminder—that sets off a part of the system which is inhibited, so close is the bond that the whole mass is permanently inhibited en bloc. At other times we have seen this does not happen, but instead there may be "temporary inhibition," and at still other times there is a compromise, as when the little girl who played at being Mamma was blamed for spilling the milk which her mother had spilt. "I ain't" she[17] protested, "the mamma that spilt the milk." Often, too, there is a symbolization of objects, as when e. g. a piece of paper serves as a scrubbing brush, a rampart of books a pig sty, a roll of cloth for a baby.

PSYCHOLOGICAL "DRIVES" AND IMITATION

It seems then that there are at first a number of imitative conditioned reflexes of one of the types described. Chance decides which ones shall be formed. The organism builds its early conditioned reflexes entirely at haphazard, and the reactions thus formed are connected with no other reactions. They are isolated. Soon however there develops an organization into systems—the policeman system, the cooking system, the father system, etc. The question now comes up, why are these systems formed? Is there any reason, e. g. why a child should want to imitate a policeman rather than a smaller child, a general rather than a private? That is, is there any reason for the integration into systems of one kind rather than another? Simultaneity does not seem to account for everything, as children are associated with their smaller brothers more than with e. g. the policeman, but in hardly any instance do we find imitation of a smaller child. Now there is ready to hand a theory which, if we could adopt it, would serve excellently in this connection. It is the "drive" theory, whereby all actions are due to a fundamental urge. Of these urges there are said to be two, the drive of sex and the drive of egocentrism, and they work not of themselves but by means of psychological mechanisms. According to this theory every action which "connected" with the drive of egocentrism in

[17] This does not invalidate the contention that simultaneity repeated a sufficient number of times is all that is necessary for the formation of a conditioned reflex. Simultaneity is indeed the necessary and the sufficient principle for "association." But to this may be added other causes which may render the time necessary greater or less. What is subjectively known as "vividness" is obviously an example. This works by some quality of the nervous action aroused, perhaps by higher frequency of the nerve impulse, to adopt Forbes' theory. If this is so, the total number of nerve impulses necessary for the reflex may be constant, but they may be spread over a longer or shorter time.

the child would be "encouraged" and the energy from the drive would stamp the reflex deeper, while every reflex that tended against the drive would tend to be inhibited. Thus imitation of a policeman would be encouraged because this magnifies the self importance of the boy. Imitation of, say, a younger brother would tend to be inhibited. Integration would tend to grow up of a policeman system, integration of a "younger brother" "system" would tend to be inhibited, the component reflexes in the first case receiving energy from the "drive" in the second case being damped. The trouble is that if we examine this conception of drive it is found to be a very shadowy thing. For instance, Frink speaks of "The two great groups,—the source from which each process gets its primal push or drive." I. e., I save myself when I fall into water because I have a drive of self preservation. But if it is asked what is meant by a drive of self preservation, it appears that this means "I tend to preserve my life when it is endangered" so that when I fall into water it follows that "I tend to preserve my life because I tend to preserve my life when it is in danger."[18] As a matter of fact, the so called drives are merely generalizations, just as the law of gravity is a generalization. It is absurd to say "I preserve my life because of an egocentric drive" as to say "the book falls because of the law of gravitation." In neither case does the energy for the motion have to be imported into the particular. It is there, fully accounted for, in the particular.

We have gone into this point because the philosophy of "drives" is just beginning to make itself felt,[19] and because it will doubtless be imported into educational theory. It is much more difficult to lay such an entity as a "drive" than to raise it. There is undoubtedly some kind of a system in the boy, built up largely on the "pleasure-unpleasure" principle, which leads him thus to imitate the man who seems to have unlimited power to do what gives the boy pleasure. Exactly how this operates, and just what connection the principle has with the formation of conditioned reflexes, we are not yet in a position to decide. This much is clear, that the conception of the "drive" but clouds the issue. The explanation of actions by its means is explanation in a circle, and it is even doubtful whether the two principles of egocentrism and sex are ultimate or whether they do not

[18] Although I act in many different ways when I am in different kinds of danger this does not involve the existence of one common energizing "drive." The contention is that what has been made a psychological classification is really only a logical classification.

[19] See Woodworth, Dynamic Psychology.

in turn depend upon the "pleasure-unpleasure" or some other more final principle.[20]

CLASSIFICATIONS

A division of initiative is usually made into Reflex Imitation and Conscious or Voluntary Imitation. Sometimes further divisions are made, e. g. by Kirkpatrick, who makes five divisions, viz. Reflex Imitation, Spontaneous Imitation, Dramatic Imitation, Voluntary Imitation and Idealistic Imitation. This treatment has, it is clear, only a classificatory value. Reflex Imitation is obviously "spontaneous," Dramatic Imitation is clearly Voluntary and may be Idealistic. Such divisions correspond to milestones in the child's progress to adulthood rather than to any occult stages of a special instinct of imitation. The division into Reflex and Conscious or Voluntary imitation seems more fundamental. It is, in fact, a particular statement of the whole problem of the relation of reflex to fully conscious action. If the relation between an imitative activity such as blowing a whistle like a policeman and the whole imitative series of acting like a policeman is difficult to understand, it is no more difficult than the relation of the action of physical writing to the whole process of writing a book. In each case there is the great stimulus or situation, and the minor or sub-stimuli—the policeman and, say, the spoken and written words of friends or a scientific circle, prompting to write the book: ultimately there is the particular stimulus of the paper and the pen and the policeman's whistle. These are all cases where a relatively elementary action is subordinated in a larger hierarchy. As the act of writing is more or less unconscious, so may be the act of blowing the whistle. The act of putting the whistle in the mouth may have been acquired in a purely reflex way, as may have been the posture and the motions of the arms. Yet here we find them forming part of a larger and undoubtedly conscious system. It is not within our province here to discuss the whole question of consciousness and unconsciousness. We would point out, however, as has already been insisted, that imitation presents no peculiar problem. An imitative activity is one depending upon a conditioned reflex of which the secondary stimulus and the reaction are similar. When the whole question has been settled, of consciousness, its conditions and results, and its relation to what are known as "purely reflex" actions, then the special case of "reflex" and

[20]As, e.g. by the "congruous-incongruous" theory.

"voluntary" imitation will be automatically cleared up. The problem is a general, not a specific one.

CRITICISM OF OTHER THEORIES

Cognate to the theory here maintained but presenting important differences are the theories of Dewey and Baldwin. According to Dewey, "What is here called imitation is a misleading name for partaking with others in the use of things which leads to consequences of common interest."[21] Dewey maintains that people have the same interests "they act with the same controlling ideas, beliefs and intentions, given similar circumstances. Looked at from without, they might be said to be engaged in "'imitating' one another." "A considerable portion of what is called imitation is simply the fact that persons, being alike in structure, respond in the same way to like stimuli." This case has already been discussed. It seems to represent only half the truth. The other half is that when men have become accustomed to being with their companions who are doing the same thing as they,—responding to the same stimuli—then if they later see their companions responding to that stimulus they are also apt to make the response even though the stimulus be not operative in their own case. The examples we gave were, in the animal world, the pigeons, who seeing their companions pecking at food, went through pecking motions though there was no food in their own cage, and in the case of human beings, the man who rises just because the rest of the crowd rises, without knowing why they are rising. It does not seem true that all imitation is explainable as the pursuit of common interests, for there do seem actions which are imitative pure and simple, and which have nothing to do with common pursuits. The play of the boy imitating the policeman is an example. It does not seem possible to go all the way in this philosophy of means and ends. Later in speaking of the men who are "doing much the same sort of thing in much the same sort of way" Dewey says "but imitation throws no light on why they so act" and again "objective likeness of acts and the mental satisfaction found in being in conformity with others are baptized with the name imitation." It is surely pertinent to ask this same question of Dewey's own explanations. "Why have they a mental satisfaction in being in conformity with others?" This "mental satisfaction" is slipped into the account of imitation, and it seems perilously near the old "instinct," with the emotional accompaniment of its exercise.

[21] J. Dewey, Democracy and Education, p. 41.

The instinct Dewey himself admits indeed later, but his whole point here is that it is not operative when men in society are seen to act in similar ways. He has really, however, introduced it into the context under a different guise.

It is interesting to note that he goes on to state that "imitation of ends as distinct from imitation of means will help to reach ends, is a superficial and transitory affair which leaves little effect on disposition." The case of the child is cited who "imitates" someone throwing a ball to him. Here there is the "common end" of keeping the game going, and the child simply "imitates the means of doing, not the thing or end to be done." Here again, why should the child adopt the common end of keeping a ball going? That has yet to be shown, and it is also to be shown that imitation plays no part in that choice of the end. The whole account is disappointing. It seems to rely, unusually for its author, upon half analyzed conceptions and unproved assertions, and assumes the "instinct" of imitation, which we have been forced to reject, while it denies imitation in cases where it undoubtedly exists.

According to Baldwin,[22] imitation is "an ordinary sensori-motor reaction which finds its differentia in the single fact that it imitates. . . . It is what I have called a 'circular activity' on the bodily side." The most general statement of the nature of a "circular activity" is to be found on page 262 op. cit. "Thus a circular activity is found in operation; life processes issuing in increased movements, by which in turn the stimulations to the life processes are kept in action." Again on page 133 we find "The essential thing in imitation . . . is that the stimulus starts a motor process which tends to reproduce the stimulus and through it the motor processes again. From the physiological side we have a circular activity."

The question for Baldwin is this: granted such a circular activity, what is its origin? He rightly points out the extreme importance of repetition in the development of the organism, and asks the question "Where did imitation enter in the scheme of evolution?" "Either the neurological analogue of imitation was present from the first, and in conscious imitation becomes explicit as mental accommodation, or it has come in somewhere in the biological series." His conclusion is that it was present from the first, and that it is, in fact, the great means of adaptation with the outside world. The organism acts so as to reproduce favorable conditions, and such action is at the basis of memory, reason and all

[22] "Mental Development in the Child and the Race."

higher processes. How this seems to put the cart before the horse. A controversy arose, indeed, around Baldwin's use of the term "imitation" to cover this "circular activity," and the critics seem to have been in many points just. But aside from this, to assume that because the lowest organism react in such a way that they "re-establish the state favorable to the reaction," therefore such reaction is the inherent characteristic that makes for survival does not seem jusitfied. For although repetition is of importance in organic evolution, yet it has not been shown that it is the only thing of importance. Baldwin has shown indeed, how the organism goes on living, but he has not shown how it develops. Any theory which postulates imitation as the fundamental principle of organic evolution is open to the same objection. In fact, as we shall later point out and as has already been hinted, the organism cannot acquire a new activity by imitation. The original organic action cannot possibly have been imitative in the psychological sense, and it is difficult to see how it can have been "circular" in Baldwin's sense. Imitative activity and "circular" activity is a special form of activity—depending on nervous property, irritability in general. Baldwin has not shown that they are the form by which survival comes. But a general category that is to be the father of all organic action must be dynamic. It must allow of progress, of evolution. By the sheer weight of his own hypothesis Baldwin has forever precluded the possibility of a new and original movement or action. But the fact remains that evolution demands such new and original action. As a consequence, Baldwin's theory must on general grounds be rejected.

When the argument is examined in detail, internal defects appear. For instance, the stimulus is treated as though it were something apart from the organism or its action—as though it were something to which the organism could *do* something. For example it "reproduces or maintains stimulations which are beneficial." It "goes out to find its stimulus." Now psychologically considered, the stimulus is inseparable from the response. The organism cannot stand aside and contemplate a stimulus, it can only react to it. Any contemplation must be by way of memory, and it is this fact that seems to constitute a danger in the purely introspectionist method. It is interesting to note a similar statement in a member of the behaviorist school.[23] "He becomes adjusted only when he reacts in such a way as to bring about the disappearance of

[23] J. B. Watson, Psychology, p. 271. Note fin.: Compare also Kempf's general thesis in "The Automatic Functions and the Personality."

the particular organic stimulus which is acting at the moment." Here an exactly contradictory result is produced by the same process of regarding the stimulus as in some way separate from the organism. Baldwin makes the relation one of reproduction, Watson one of avoidance or "disappearance." To return to Baldwin, it is of course not maintained that the organism does not often act in such a way that a similar stimulus is present after the action, or in such a way, as Watson points out, that the stimulus of pain actually disappears. The point is that each assume a purpose where on their own showing they are only entitled to assume a response. That Baldwin is not justified in his statement about circular activity is amply proved by later researches showing that organisms simply respond, and often, if the environment be manipulated, to their own destruction.

Further when Baldwin says "the stimulus starts a motor process which tends to reproduce the stimulus" he does not say how it comes about that the final state of the organism after action serves as stimulus. He only takes it for granted that there is this "circular action" which means no more than that "there are cases where we may be said to imitate ourselves." Life is full of such self perpetuating activities; in reacting to the stimulus formed by the completion of the first reaction it is sometimes immaterial whether that reaction occurs in ourselves or in others. . . .[24] But this is putting imitation up as a peculiar process, and so far from simplifying the problem complicates it by assuming that we can imitate ourselves too. "We imitate others because we imitate ourselves." Why we imitate is not explained; the process is still left an irreducible surd. It does not clear up the general situation at all to put it in terms of stimulus and response, because then we have to invent a particular kind of stimulus, viz. an imitative stimulus. Moreover his illustration of the circular reaction in the lower forms of life which lack a nervous structure is really no parallel with imitation as usually conceived-conscious imitation as he calls it. The example he gives[25] where the protoplasmic mass reacts to the oxygen around it continually by internal motion which presents new material for oxidation shows the working of an external inorganic stimulus upon the organism. An equilibrium is maintained, but that is in no sense imitation. The organism is so modified that it is ready for further stimulation; but the stimulus is not reproduced. The reaction in the terminology of this paper is not

[24] This possibility of self imitation is, of course, maintained in the account given in this paper.

[25] Pp. 271-272.

similar to the stimulus. The term "reproduce the stimulus" seems to have been used in two different senses, and is the cause of the undoubted confusion of thought. When one reacts in such a way that the action itself is similar to the stimulus, one may be said to reproduce the stimulus. When one acts in such a way that the result of the action is that the stimulus is kept up one reproduces the stimulus in an entirely different sense. No analogy is possible between the two, and no argument is valid which proceeds from the assumption that the two processes are essentially the same.

The theory of Baldwin created considerable stir when it was first given out, and was, indeed, the centre of an intercontinental controversy. It presents, moreover, sufficient apparent likeness to the theory here maintained to be dangerous. It is for these reasons, as stated already, that a detailed criticism has been given. The criticism, however, has been of positive value in that it has laid bare an important implication of the conditioned reflex theory.

AN IMPORTANT IMPLICATION

If imitation is built up from imitative units[26] each of which involves a conditioned reflex of the kind we have described where the secondary stimulus and the reaction are similar, then the imitative action is not new. The essence of action due to conditioned reflexes is repetition, for such action is due to substitution of one stimulus for another because both have occurred simultaneously before. The formation of the conditioned reflex lies in the substitution, and substitution implies the pre-existence of that with which the substitution is effected. A dog cannot learn to secrete saliva at a green light unless he already secretes at some other stimulus. The same applies to imitation. X hears a piano recital and his fingers begin to make the motions through which the pianist is playing. An observant onlooker remarks that X is a pianist, and it would further be safe to guess that he had played that particular piece. His hearing the notes has occurred with certain muscular motions, and had subsequently served as a conditioned stimulus for those motions. But they would not do so unless he had played the piano; it is certain that even a musical man with no knowledge say of the violin would not make the correct finger movements when he heard a violin solo. Thus Mr. X has learnt nothing new; he has only repeated a series of co-ordinated movements which he had already gone

[26] Cf. Watson, Behavior, chapter VIII, which adopts the unit theory and maintains that imitation is a combination of already acquired activities, but does not explain the nature of the unit.

through at least once. It is the same with all imitation. No new activity is acquired. A number of old activities may be synthesised into a new chain by a new stimulus or rather a combination of new stimuli, but those activities are old. E. g., to take an illustration already used, suppose a boy imitates a policeman by standing in the road with a whistle and "controlling" the traffic. Here he has already learned to blow a whistle and to move his arms about in a certain way. What is new about his imitation is the combining of these activities and the standing in a certain attitude on a board in a certain place, and this is due to the combined stimulus of the attitude, the board, the whistle and the motions of the policeman.

Take another example: If a boy is learning to operate a machine the instructor will perhaps show him how. Then the boy will repeat the instructor's motions as far as he can. The instructor will say, perhaps, "You do that like a farmer" when the pupil is awkward. He is psychologically truer than he knows. The boy, if he has been brought up on an old fashioned farm will have certain ready made motions not involving any delicate co-ordination. These he will import into his action at the machine, although the instructor whom he was trying to copy did not use at all the same movements and perhaps not even the same muscles.

Still another example: An adult learning to dance is told not to try to walk. The motion is quite different. Yet every adult who learns to dance begins with the motions of walking even when he or she has been watching and trying to imitate a good dancer. The rhythm and muscular action of walking are imported ready made into the imitation of the other person.

It is thus true from another angle that we imitate ourselves, not other people; no entirely new activity can be acquired by imitation; at the best a new combination of activities may be gained; further, if an activity forming part of what is imitated has already been combined with another activity or series of activities, the whole series is liable to be imported into the imitator's "copy." The same conclusions are reached by the animal experimenters: Miss E. B. Smith [27] says that there is no evidence to prove that an animal acquires a new activity by imitation. Monkeys, pigeons, chickens and other creatures have been experimented with. Chickens even showed no difference in accuracy and force of pecking if they were kept apart or allowed to "copy" older birds. Miss Smith comes to the conclusion that the old idea that animals learnt by imitation of their elders has little in its favor. Similarly Thorndike: "Nothing in my experience with these animals (monkeys)

[27] So also, Watson, loc. cit.

then favors the hypothesis that they have learned to do things from seeing others do them."[28] This principle is of great importance in pedagogy. Whenever manual skill is taught the method of imitation is used at least to some extent, whether this be by pictures or directly. If then among the motions A B C D E F there is a motion C which has previously been used by the child in the series C D^1E^1, then the result of the imitation will not be A B C D E F but A B C D^1 E^1F^1. Further, if the series C D^1E^1 becomes associated with A B, then a new conditioned reflex is formed which will have to be unlearned before any progress can be made. The child will have "imitated" herself. How then can he save this unlearning process and thus economize his time? By isolating the process C D E from the rest of the series, building it up from its components C & D & F; in short by drill away from the immediate object. Take the case of handwriting. A child who comes to school has already formed many habits of finger movements such as those used in throwing balls, closing doors, etc. If he now be given a pencil and told to make a letter after having been "shown how" he will import some of his stock in trade of motions into his handwriting. Thus "bad habits" will start and even if they are noticed immediately by the teacher time has been wasted. The stimulus of the sight of the teacher making the motion teaches the boy indeed what to look for when he observes the motion of his own hand and may thus act as a check. But it is not the imitation as such that teaches to write, except when it serves merely to unite previously acquired movements. If one of these latter is part of a series of movements, imitation will be of little use.[29] Careful analysis of the child's movement will then be necessary, and proper drill should be given for each individual case. The same thing is seen in teaching the piano. Dexterity may be acquired by exercise of certain movements away from their context, and even away from the piano, more easily than by letting the child simply imitate the teacher playing at the piano, as is often done under bad instruction.

An interesting corollary is that the older the pupil, the greater the need for drill, and the less willing is the pupil to undertake it. This constitutes an argument for the early beginning of such subjects as oral languages and music. Time

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[28] Animal Intelligence, p. 213.

[29] The phrase "acquiring of new activities" is, of course, vague In the last resource, such things as handwriting drill must be taught by watching others, but when the movements have been simplified there should be no danger of faulty imitation. Movements in combination may well be learned thus with the proper precautions.

is actually saved by giving the rudiments as early as possible in childhood. Where a subject or a movement appears to have been taught by imitation, it follows that a more rational method of instruction is the careful and scientific analysis of the activity into the component parts. The pupil is helped to go through these isolated movements and then, by imitation, he may learn to combine them. That is the scientific method of instruction in cases where imitation plays a part. It is followed in the teaching of handwriting and, still more strikingly, in the teaching of language by the phonetic system.[30] With increasing knowledge and technique of analysis it will perhaps come to be used for teaching all activity involving bodily motions. It will succeed because it will supplant the crudity of unanalyzed synthesis.

SUMMARY AND SUGGESTIONS FOR INVESTIGATION

This chapter, which began with an acount of the ubiquity of imitation in every day life and in education, now ends with a qualification of the first statement. Imitation, it has been seen, is not an instinctive or an innate, but a learned reaction, consisting of activity based upon conditioned reflexes where the secondary stimulus and the reaction are identical. This secondary stimulus may originate either in the same or in another organism, so that imitation may technically be either of self or others. Thus no new activity is learned by imitation, but only new combinations of activities already acquired, the action imitated serving to integrate a new series, the elements of which are already part of the organism's stock in trade. Accordingly the statement that a child learns so much from imitation is only true if by learning is understood "synthesis of previously performed reactions." He is helped, indeed, to write by watching his teacher, but he does not learn the writing movements. He is helped to perform the evolutions of physical drill by observing an instructor, but he does not learn the movements that make up these evolutions. The help that is given him by the copy is rather in the acquisition of a new combination. Now the exact effect upon educational practice of this revision of the theory of imitation has yet to be worked out. Indication has already been made of its bearing on the theory of drill. But a far wider field is opened up. There is necessary a rigor-

[30] It is said that without this system it is practically impossible for an adult to learn to speak a foreign language without an "accent," i. e., the adult imports the rhythms, etc., of his mother tongue when he learns directly by imitation. Cf. also the methods of instruction used by the exponents of motion analysis.

ous examination into every case where imitation enters into learning, whether the imitated person be another child or the teacher. In every case it should be ascertained whether the imitation is premature, that is, whether it presupposes elements and sub-integrations which are not already in the pupil's repertoire. It may possibly be that it is a positive physical disadvantage for younger children to see too much of older ones. On the other hand it may turn out that the difference between children of school age is not sufficient to do any harm, or that the harm is more than offset by the healthy emulation of older by younger children. It may be that we do not give the proper place to explanation before giving a copy to be imitated, e. g. in handwriting. It may be that we give too much explanation and too little chance to copy individual motions. Our teaching of handwriting could perhaps be greatly improved by taking the anaylses of handwriting motions already made and building up a scheme of instruction which will give the proper place to imitation as a synthesis. All these and similar questions can only be answered by experiment. They cannot, any more than any other question in any applied science, be settled a priori by theory. Psychology cannot show how to teach. It can only point the way to research in the class room and out of it.

A CHILD AND NATURE

By Margaret Morse Nice

"All things that are tame, are, as it were, an incarnation of and embodiment of the littleness of men, but all things that are wild, are, as it were, a portion of the Deity."

—*A Draught of the Blue,* F. W. Bain.

Some people are indifferent to nature, some care for tame animals or cultivated flowers, while comparatively few are true nature lovers. The indifferent ones may be so inherently or from lack of the proper stimulus; sometimes a friend, a course in biology or a book will rescue these individuals from their sad state, but others seem hopeless. Pet lovers lavish their affection on horses, canaries, garden, and so forth, and at the same time may care little or nothing about wild life—witness the chronic battles between those who admire cats and those who prefer birds. Real nature lovers are of many degrees and kinds; some are specialists, being thrilled by mountains or entranced by dragonflies, while others include all outdoors in their affection. But they all agree in this: that nature, as she is, is fascinating and wonderful to them and to love and protect her is their privilege and duty.

Our first child is a nature lover of the most intense kind. She has shown such unbounded delight, quaint fancy and unexpected philosophy in this field, that I am moved to share my record with others that they may get an insight into a child's mind, and perhaps a new appreciation of the attractiveness of our humbler fellow creatures.

The question arises as to what part heredity, environment and training have played in such a case. With our child all of these factors have been favorable. Through heredity she seems to have received an innate bent in this direction; her relatives include nature lovers and pet lovers of varying degrees, while her father is a physiologist and her mother a biologist. However, no other member of her family, immediate or remote, has displayed so great a devotion to nature as hers. The development of this interest has been fostered by her environment: Oklahoma with its rich flora and fauna throughout most of the year, and the Pelham hills in Massachusetts during the summers. She has had many pets, most of them wild creatures. As for her training, she has heard

and read much of the best nature literature from Kipling's "Jungle Books" to the files of "Bird Lore." We have given her opportunities and let her react to them; we omit officious instruction and encourage her to make her own observations and discoveries. Instead of answering many of her questions, we ask her what she herself thinks in order to guard against the danger of spoiling her fresh outlook on life. We avoid sentimentality, yet have not taught her to dislike anything but pests, nor to fear anything except poisonous snakes.

It does not follow that in every child with favorable ancestry, environment and training, an ardent love for nature will appear; for our younger children under practically the same conditions have shown this characteristic only in a moderate degree. Our eldest seems to have gathered in herself the quintessence of nature love from all her ancestors.

EARTH AND SKY

This child has not shown the keen interest in the phenomena of earth and sky that some children do; her specialty lies elsewhere. She is fond of playing in sand or dirt, of gathering stones, climbing rocks and wading in brooks, just as most children are; in these activities both love of outdoors and the element of experiment enter.

I have noted two of her observations on matters pertaining to the sky when she was barely three. One evening she happened to be up late and saw for the first time the lights of the town in the valley below. "Oh, look at all dose pwetty lights! I sink dey are parts of a sun."

Another day during a thunder storm she told us: "I like a sunder. I jump up and down. A woawing (roaring) of sunder is like wats (rats) and like wolves."

Perhaps her chief reaction to these phases of nature has been that of inquiry.

When four she asked: "What is air? How do people make air? What makes air?"

"Where does a 'gy (sky) 'dop (stop)?"

"I used to think the earth was just squashed bacteria," she volunteered when six. "Why?" I asked. "Because the grains were so small." "What do you think now?" I inquired. "You told me it was made up of crumbed rocks."

"The reason we can't see air is that it's white and hasn't any look."

"How did water ever get into the world?"

Various problems have troubled her because of the notion she had received of heaven being in the sky. For instance,

when four she asked me: "Mudder, how do angels manage about a wain (rain)?" "I sink dey are higher dan a wain. How high is a 'gy? How high is a moon?"

Like many children she seemed to consider the sky solid. "How hard is a 'gy of heaven?"

When seven she inquired, "How can the angels and Jesus breathe so high in the sky?" She thought heaven might be on Mars.

I happened to tell her, when she was five, the story of Joshua's commanding the sun to stand still and she was plainly skeptical. "How could he shout up so far? That great height! Millions of miles. Besides, it hasn't any ears."

Later in speaking of the Norse gods, she remarked, "I should think gods, if they lived in the sky, would get scorched, burnt and frozen."

The heavenly bodies have stimulated her imagination to some extent. When four years old, she announced: "I was a giant and I swallowed the sun. I just made that up." When six she located an imaginary "Home" in a planet, and two years later had all sorts of remarkable countries in the stars, the moon and Mars. "I have a sun and moon of my own. Sometimes I shower down the snow."

At present, when nine, she has reached the age of generalizing on occasion. The mention of a pamphlet entitled "How to become independent in five years" started her on the following reflections.

"Everything depends on something else." "We have to have the earth to walk on, air to breathe, food to eat and water to drink. Don't you think those are the four most important things? Of course you have to have places to sleep and trees and grass. No animals could get along without trees and grass. Of course you'd have to have the sun and moon. And in winter you have to have fire."

"Why do we have to have the moon?" I asked.

"Well, you know how dark it was that night. I think it's much pleasanter to have a moon."

FLOWERS

Flowers have delighted her since babyhood, her interest in them being most intense just before she was four. At that time she knew the names of forty different flowers, usually remembering a new name after hearing it only once. I have never known another child of this age to take such pleasure in identifying every new flower found.

Her attitude towards flowers is largely love which expresses

itself in enjoyment of their beauty; she seldom picks flowers, preferring to leave them in peace. Few problems occur to her in connection with the plant world; once she knows the name of a flower she has in general no more questions to ask about it. She experiments with wild plants each spring by transplanting them to our grounds. Cultivated flowers do not appeal to her as the wild ones do, nor does she care to have a garden herself.

She has talked little about flowers. Not until she was eight did she mention them in her stories; then she invented a "Flower Land, where the flowers are so thick they nearly smother the birds as they go through them."

Upon finding a mass of spring beauties, she said, "When they get way open, they deserve the name of morning star."

ANIMALS.

Animals of all kinds, especially wild ones, are this child's greatest interest in life. In analyzing her attitude toward them, let us first consider what it is not. She has shown no fear, no cruelty and very little dislike. She has never been afraid of anything in nature from spiders and snakes to lions at the circus. Some children have fear suggested to them by adults, while others seem to be fearful of various things instinctively, no matter how careful their parents may have been to encourage the opposite attitude. She is never unkind to animals; only once do I remember having to caution her—she was then three—to be more gentle with a rabbit upon which she excused herself by saying, "But lions be wough." She kills various insect pests but she never torments anything. She has, moreover, never shown aversion to any creatures; without exception she has been willing and eager to take them in her hands. Now she has learned to disapprove of various injurious species largely because she knows the harm they do.

Her constant attitude has been that of love; at first universal, but gradually growing more discriminating. This affection and absorbed interest induced observation and experiment; these in turn led to definite problems which she tried to solve or at least pondered over, and finally she made generalizations from her experience. At first love predominated, colored by imagination and expressing itself to some extent in observation and experiment. From the age of four the solving of problems was most important with her affection gradually becoming less catholic. Finally, from the age of six, all these factors are operative and used with increasing in-

telligence while there is the added element of philosophizing from her experience and reading.

LOVE

"In the love of our people for nature lies the highest hope of the race."—Harriet Monroe.

A child's love for animals shows itself in an intense interest in them, a desire to watch them and sometimes a wish to get hold of them. There is often great pleasure in handling and fondling; an adult can understand this in case of a rabbit, but it is not so easy to realize the bliss of holding an earthworm, frog or horned toad. Pets sometimes make delightful playthings; many are docile enough to lend themselves to the child's wishes, yet they are always doing unexpected things; they are thus animated toys with endless possibilities. The child's imagination is active; he endows the little beasts with all sorts of human attributes and considers that they will like the things he does. It is in this that much of the charm of the little child's reactions lie—he is so trustful, he must believe that his overflowing love is reciprocated, whereas the older child is wiser from experience.

Most babies have a great interest in animals; often they show enthusiasm over the sight of them and sometimes fear. Our little girl showed this typical baby delight from a year to eighteen months; then she had her first pet and it was at once evident that her admiration of her humbler fellow creatures was more than common. The pet was a frog; the baby would chase him over the house, catch him and carry him about, trying various experiments such as putting a piece of bread to his nose. When it croaked she said, "Fwog sin'," and once she invited me to "Kiss fwog." On our walks she would try to catch crows and she enjoyed hearing the toad chorus from the swamps. When nearly two she played enthusiastically with some measuring worms, admiring them as they walked over her rompers and her hands. The first toad that she had ever seen she pursued and captured, announcing, "Home, Papa." A large spider that had its web on our verandah was an object of great interest, the child announcing one evening when the spider was late in arriving, "Baby so happy 'pidy come back again."

When she was two I said to her, "Listen to that blue jay calling." "Is dat a mudder b'ue jay callin' her baby?" she wondered. Then she decided, "Dat is a baby b'ue jay callin' her mudder."

When two and a half she would watch a flock of hens for

an hour at a time, a one-legged rooster having a special fascination for her. She used to go down on all fours on the sidewalks to study the comings and goings of ants.

When she was three, her affection was most unbounded, her admiration most naive. It was at this age that she apparently made her first acquaintance with angleworms as we were planting tulip bulbs, for she exclaimed, "Oh, look at dis cunnin' little 'nake." I told her what it was and she got it out of the ground and exhibited it to her baby sister with joy that was delightful to witness. "Dis is my angleworm. Would my baby like to p'ay wid him wight on dere? Would you like to get on here, dear little angleworm? Her fell off of here. I'm winding it awound my fingers. Ha-ha, her almost fell and I caught her. It's a nice angleworm and it's my pet. I mustn't hurt my angleworm." I found her another and she was more jubilant than ever. She put them on top of the go-cart when she wheeled the baby, but she decided they wouldn't like to go too fast. She carried them around in her hand for a long time and after a while we discovered that she had presented one to the baby! That evening she remarked, "Weren't my angleworms tame!"

Her unspoiled attitude toward these creatures was evident a few months later when she lay down in bed, saying, "I'm cuddling down just like a little worm."

I had told her the fable of the "Ant and the Dove" and she remarked, "A ant never bit me." "Yes," said I, "one bit you at Cambridge." "I wish I could go to Cambridge to see my dear ants," was her unexpected reaction. "I don't like to go away from my dear pets." "What pets?" I asked. "My dear ants." "There will be plenty at Amherst," I assured her and she said, "I will like them *so* much."

She was fond of moths; she would catch them and carry them about, bringing one to supper and nearly drowning it in the milk she poured out for its delectation.

She considered frogs very superior playthings. She would carry them about, have them swim in a basin of water, play in the sandpile, look out of the window, sit in a train of blocks, ride in her pocket, in a wagon, or on a rubber cat, go down the athletic slide and perform countless other activities. They had to watch the processes of dishwashing and cooking; once she held a frog over the washtub, saying, "He is lookin' in so pwoudly." I told her that she and I would make gingerbread. "A fwog will help," said she. She carried him into the study and inquired: "Why don't you wite, Fader? Little fwog wants to watch you." She built a house of blocks for him saying: "Dis is a 'mokedack (smokestack) for a fwog to

cook. Would you like dis wandah (verandah), little fwog? It has a sandpile. Didn't you hear what I told you, dear little fwog?"

She was very happy over a big fat toad. "Do you sink he loves me very much?" "Don't you sink he loves me? See how he sits on my hand!"

She spent a blissful day with a tame setting hen, lugging her about for hours at a time and recapturing her from the nest each time she escaped. She looked after "Friendly's" welfare by poking her head into water and into the grain pan, and to amuse her gave her rides down the slide. "I love Fwiendly so much and her loves me. She is so happy to see me!"

She was entranced with the baby chickens in the spring. She told me this story about one that had just hatched and was peeping. "I told him, be bwave, chicken, be bwave. Don't cwy or eider you'll be a cwy-baby. Be happy and cheerful, little chicken, like a soldier. Den you can shoot your ememies."

She said the neighbors didn't want her to "Bodder a cow." "How were you bothering the cow?" I asked. "Oh, I was just amoosin' him." "How were you amusing her?" "Oh, I was p'ayin' jokes wid him."

When four years old she no longer lavished admiration on angleworms and ants, but turned her attention to somewhat higher forms of life.

Little red salamanders fascinated her; she held one in her hand singing to it thus:

"Dear little sing
How I love you."

She first saw horned toads at this time and was immediately attracted to the prickly little creatures.

"I love my little pet—my little pet horned toad. I love him as much as a wabbit." "Horned toads are terribly good." "He ate a green grasshopper. He sought it was as fweet as a sugar plum." She sat in the hammock with one in her hand, improvising songs to him, but all that I recorded were the following lines:

"Sing, sing little toadie,
You are so happy."

Bunnies are in many respects ideal pets for little children; they are so soft and hugable and harmless. When this child was four she had three rabbits, which she named White-Ball, Peach-White and Brown-Ears. She had many plays for them and planned still others—a party, a garden, a wedding and

even dictated a letter to one of them. She often composed songs sitting in her rocking chair with a bunny in her arms. One song began thus,

"Little chucklin' Bunny."

Another went this way:

"This is a happy Bunny,
Happiest in a world."

"Fly, fly, Bunny dear,
Fly, fly, sweet little dear,
Bunny, Bunny, Bunny dear."

Bunnies were apparently the criterion of lovableness, for she said: "Mother, you are as dear as a rabbit. Father is as dear as a rabbit too." And on another occasion, "Baby is as sweet as a rabbit."

After this instances of such intense devotion became less common. Her admiration for her beloved toads was expressed in her remark about one when five, "It had a very sweet croak." When six she told us apropos of a big specimen: "She's all contented so long as she's in an open window. She's such a dear thing." She caught two toads, naming them "Stone-Fat" and "Chirpy-Hop"; she let them swim in the bath-tub puting in a vast amount of stones "to suit them." She planned that sometime she would live in a house in the woods: "It won't have any floor, but just grass growing on it and frogs and everything could come in. My bed would be of pine needles. Toads could come hopping in."

Her love is not yet diminished for, when eight, she came running into the house in the greatest excitement saying, "I have the two things I love best in the world—a toad and a baby dove." She still examines each water meter she passes and rescues any marooned amphibia. She found a tiny swamp tree frog and said, "Wasn't that an extraordinary treasure!"

When six she had a painted turtle which she and her sisters used as a character in their play with their toys, having it marry first a cat and then an iron mule. "I just love Turtley. I think he's darling."

At this time she admonished her sister as follows in regard to a pet rabbit: "Make it as happy as you can. We love it; we love it very much."

When eight she was enchanted with a praying mantis, saying, "It has wings like a fairy."

Birds are rather too elusive to appeal to the very little child; he likes to handle and fondle his pets. Our daughter loves

birds increasingly as time goes on; they are probably her favorites of the animal kingdom.

She had heard the expression, "Happy as a lark," and when three she asked me: "Are you happy as a English 'barrow (sparrow)?" "I'm as happy as a cwow. Are cwows happy?" "I'm as happy as a meadowlark."

When six she was invited to help pick cherries and said, "I'd rather have the robins have them than us." Perhaps, however, generosity towards the birds was not her sole motive.

She adopted a baby robin at this time and loved it more than any other pet she ever had. "I love Speckled Breast more than my baby."

Her interest in bird's nest is absorbing at present; she is such an agile climber that few trees can discourage her. Once she remarked: "Don't you think a dove's nest is lovely because it is so like camping? It would be so cool in summer."

When she was five and a half, she was given a puppy; she played with her a great deal and often rocked her and sang to her, yet the duty of feeding her charge never appealed to her. She did not become really devoted to her little dog as many children do. She is much less of a pet lover than a nature lover.

"Mystery and terror are instinctively associated with the serpent; myth and legend show that this tendency has existed since the dawn of the human intellect," says Wm. Scully. On this child's father's side there is united dislike of snakes, quite marked in her father, and natural enough as he was brought up where copperheads abounded. Her maternal grandfather had a great antipathy to these reptiles, her grandmother has no love for them but her mother and aunts rather like them. The first time this child ever saw a snake was when she was two; she was very anxious to get hold of it—it was a little one—and she asked in disappointment: "Why don't you let me touch it? I want a pet 'nake."

Later she had her desire; when five she had been sick and while convalescing had several little snakes in bed to entertain her despite her father's horror. When eight she told me: "I almost caught a little green snake but it got away and I nearly cried." "The thing that I want most in all the world is to catch a little green snake."

Lack of affection is plainly shown in her attitude toward flies—a result of our teaching. When three she announced: "I kill f'ies. I just 'quash 'em." Occasionally, however, her normal attitude at this age towards all creation reasserted itself and she would call them her pets and once I heard her say, "Dear little f'y, come here."

The next year her sanitary zeal was so great that she said, "If I find a f'ies eggs, I will take a gun and shoot 'em."

As she grew older she became more fastidious.

When five she remarked: "I don't like to pick up grasshoppers. They're too wibbely-wobbely. They aren't pleasant to pick up."

Although at four she exclaimed when looking at a picture book, "Oh, my pet *skunk*," at six she remarked, "I love all animals, only skunks I don't think are so pleasant." "Don't you love skunks?" I asked. "Not so terrifically much."

By eight many of her first loves had come to be despised. I asked whether she liked all animal life and she answered, "Well, I don't care especially for moles." "Why?" I asked.

"Well, I don't see them."

I thought she had said moths and she agreed that she didn't care much for them for "they are too fat."

"I like sea animals and land animals."

"Do you like insects?" I asked.

"I like butterflies. They are so pretty. I like caterpillars pretty well. Some insects are so ugly. They aren't very interesting. They aren't pretty. I don't care for them."

"Do you like spiders?" I asked.

"I don't care for them. I don't think there's much to them. They aren't pretty. Of course they do good. They do make some pretty things—their webs and golden dew."

Some time later she remarked: "I haven't any love for angleworms. I don't like ants and I don't like spiders. I don't think they're beautiful. Big ants bite. I don't like flies. Spiders are mostly legs."

One day I asked her whether there were any things in the animal kingdom that she disliked. She answered:

"Well, I don't have a special love for any of the insects. But I think butterflies are very pretty, of course. I don't like worms; I simply don't like them. I don't like caterpillars. I like worms very much for food for birds; if they get eaten up it's all right, but if they don't they're awful."

I mentioned a caterpillar covered with cocoons we had seen some months before and she said:

"I don't like parasites; I think they're horrid. I think parasites are a mean set, don't you?"

I asked her what things in nature she liked best of all.

"Oh, birds; they're so soft and sing so sweetly and do such amusing things sometimes. And rabbits, they're soft too. Of course I like toads, but I don't know how to tame them. They hip-hop away. Turtles are cross."

"I like frogs and toads and turtles and monkeys and baby and you the best in the world." "Why do you like monkeys so much?" I asked. "Oh, because they climb."

"I like either water animals or birds best. Frogs or turtles or birds." "Why do you like frogs so much?" I asked. "Oh, it's fun to chase them."

"I think I'd like to be a swallow," she decided. "They have such lovely times flying and don't have much of a nest to make, and dip in the water."

Another day she remarked: "I love birds and I love other things too. I just love rabbits; they seem to have a charm for all children, especially little children."

As for the part that animals have played in this child's imaginations, they have been the very warp and woof of the stories she has told, for they have been the characters, and descriptions of their appearance and habits have been the themes. The birds and animals she has invented have usually been curious creatures, surprising combinations of what occurs in real life. She has occasionally pretended to be an animal, sometimes a fox and again a toad with a thousand babies. When eight, she and her sisters and a boy playmate organized a "Monkey Family" whose chief occupation was climbing trees and on roofs of houses. Since they were monkeys, lessons were entirely inappropriate. All the tribe had special names; the baby was "Heideda" and was counted "the wisest of the band for she can talk the bird language and no one can understand her." Our eldest announced, "I'd rather be a monkey than a queen."

INQUIRY

"The mind seeks for truth as the body for food."—C. F. Hodge.

This child has naturally an inquiring mind, a scientific bent that many children lack. First came observation; in babyhood everything was a field for discovery; as she grew, more was taken for granted yet in cases where she is interested her powers of observation are increasingly keen and discriminating. Experiment appeared soon after; a large part of her activities with animals would come under this head—putting them in different situations to see what they would do, stimulating them in various ways and watching their reactions, yet all done in a spirit of friendliness and consideration, taking care not to hurt them in any way. Since animal life has such an interest for her, it was but natural that many problems should arise in her mind and that she should try to solve them by close observation and experiment.

When nearly three she asked me about some English sparrows that were near a knot hole in a tree, "Do dey 'gratch (scratch) a hole wid deir bills, is dat a way?"

When she was three we caught some snails for our acquarium and she used to watch them, taking them out and arranging them along the window sill. "Two look if dey were kissin' deyself!" she exclaimed. Then she inquired: "What is inside of 'nails?" "Do 'nails love people?". I asked her for her opinion and she decided that they must love each other and their babies.

Sometimes she made an exciting discovery about her frogs. "Dey have moufs. Why do fwogs have moufs?" "It has two little eyes just like my baby. It has two eyes like oder people."

Other problems that presented themselves to her were:

"Why don't hens have fwont legs?"

"Do hens have minds?"

"Do horses talk?"

"How does a grasshopper sit on eggs?"

The next year, bacteria seem to have exercised her mind. "Why are those little plants called bacteria? Because they're bad?"

"Why do bacteria like to make people sick? Do dey get up at night and s'eep by day?"

Her rabbit was eating some bread that had fallen on the floor and she inquired, "Why don't animals mind about bacteria?"

When looking at an "Economic Entomology," she asked whether a certain cutworm was bad and I told her that all cutworms were bad. She wondered, "How do some animals grow to be so bad?"

"Does a train run faster than a chicken?" "What do you think?" I asked. "I think a chicken can go faster. I remember a train went rather slowly—bumpety, bump." She had not been on a train for half a year but the speed of chickens was a practical, everyday matter with her.

When five she concocted the following ingenious scheme: "I'll tell you another adventure I had. I saw a big black rat under a juniper." "If you tried poison ivy growing around the rat's hole would they get poisoned when they touched it? If you caught one, you could cut off his fur, couldn't you? You might have some poison ivy right by his hole, and he might get poisoned if he came out."

She had been studying a spotted turtle and said: "You

notice how the shell all goes together. How do you suppose he creeped in?"

She caught another turtle and observed: "She can scratch herself with her hind legs, that is how she protects herself. Doesn't she seem to be a friendly one? Surely a snapping turtle couldn't be so friendly. Doesn't she have pretty legs—pretty legs and arms! Have you noticed what tiny spots she has on her skin and what big spots on her head?"

"What's the use of his great bones if he doesn't bite?" "He bites his food," I said. "I should think his food would be soft," and I had to agree as the books said they eat largely plant food.

"The turtle would seem like a mountain to a fly."

"Flies don't know about bacteria, do they?"

I was telling her one evening to listen to the crickets. "Do they sing for joy because night has come?"

"The liveliest toads are always the ones we've just caught." "Why?" I asked. "Because they get so discouraged. They have such a time getting loose."

This summer she found a wren's egg and was all agog to hatch it; the only way she could think of was to hold it in her hand, but after a while she apparently grew weary and left it sunning in a window. The next year, when six, she got an English sparrow's egg and tucked it under some baby wrens so they could hatch it, her zeal for a baby bird making her forget temporarily her disapproval of English sparrows.

When she was shown a caterpillar covered with the cocoons of parasites, she asked, "Why doesn't he turn around and bite them off?"

We found an advertisement of a Frog Farm, the idea of which greatly appealed to the little girl. I told her some frog farms did not succeed because the big frogs ate their children. "But what do they think they are?" she asked. "Why doesn't a frog sit and watch its eggs sometime?"

When talking of black snakes getting some young robins she had been watching, she remarked, "Birds like themselves a little better than their babies, don't they?"

"Since robins like civilization so much, why do they shriek so when people come to their nests?"

"How did life start?"

She was looking at pictures of "game hogs" in Hornaday's "Our Vanishing Wild Life" and she could not understand why people shot birds. "Why do they shoot them if they don't care about them? Don't they dislike them?"

The next year she was fond of catching butterflies in her hands and playing with them gently. "The morning is my

favorite time to catch butterflies." "Why?" I asked. "Oh, they aren't so very merry then. It's cooler."

When eight, she had some guinea pigs for pets and she observed them closely. "They go more by scent than by sight." "Do you know this one chews just like lightning? He chews perfectly as fast as lightning."

She remarked about a big fat toad: "He has such billowy sides. I'm glad I'm not so different on my two sides—so yellow on one side and so brown and warty on the other."

Upon seeing some chimney swifts, she said: "I call them arrows. Don't you think they look like bows and arrows?"

She had been reading of a father kingfisher sitting on his eggs and said: "We couldn't be heavy if we had to sit on our babies—on eggs. How could they get out without anything hard to push with—just faces? We'd have to help them."

When nine she said: "I don't see how people can love cats. Why don't they turn their attention to darling little rabbits? They're much softer."

"To think of people that keep cats that kill birds having the honor of a mockingbird's nest on their house!"

"Birds can't laugh, can they?" I said they seemed to express their joy by singing. "How do sparrows show their joy?"

Although angels do not properly come under the head of nature, yet, as this child has compared them to natural objects, her ideas regarding them are of interest. When three years old she told me: "Angels are like birds 'cause dey f'y. Dey have diffwunt mouvs like birds. Birds have good mouvs, but angels have mouvs like me and my baby and my fader."

When eight she objected to angels because they had both feathers and hair—her sense of biological fitness being outraged. She did not see how they could sit down with comfort nor how the god of love could lie down with wings sprouting out. Later she criticized angels because they "are half people and half bird." "In one way devils are better because they aren't two things."

PHILOSOPHIZING

"Experiment is always at the bottom; . . . reason at the end."
The Message of Leonardo—Geo. Sarton.

Being a thoughtful child, loving nature and yet not satisfied with the conditions of life either for herself or for the birds and animals, she has made generalizations and drawn conclusions that have much of the nature of philosophy about

them. The injustice of the treatment accorded valuable wild species has troubled her as it has many another.

Philosophizing did not appear until she was six. The problem of people versus animals seems to have engrossed her attention.

"I don't like to destroy wild life. Why do people shoot little birds without pity?"

"I like animals better than people. They're more interesting than people."

"I don't see why we are so important—more important than any other animal. We have strikes and fights." I asked her whether she would like to be a toad as much as a child and she said, "Yes." She would also like to be a turtle. but not a bee, because bees die too soon.

"Birds are more intelligent than people about flying."

She remarked that one difference between people and other animals was that animals' legs come out as people's do when they're sitting down. Another difference is that animals are covered with fur. People are hardly a bit like trees. When I asked whether they were alike in any way, she said their leaves were something like hands.

She was noticing the position of a butterfly's legs and speaking of how it balanced itself. "Butterflies' wings are very large in comparison to their bodies—that is why they can fly so well. Our hands are tiny in comparison to our bodies. Birds' wings are just right."

She was playing with an old hat of mine decorated with roses and her four year old sister said: "Why does father have to have a black hat? I'd like him to have a rosy hat, a big, rosy hat." "I wouldn't," said the six year old. "In most animals males are most beautiful. Most females are brown, for instance, birds. I don't like to have males most beautiful all the time."

She thought monkeys, frogs and toads were nearly related to us; monkeys because they look so much like us except their faces. But donkeys aren't much related to us: "Think of their ears!"

She didn't see why people had to wear clothes; she would prefer to be more like monkeys. "Why don't people have tails?" "They would help in climbing and in holding on to things."

As we were getting ready for a call, she said, "I'd like not to see any people, just animals." She would live off in the woods and climb trees and watch animals and write books about them.

"Why are we so different from animals? Animals don't seem to have their eyes in their face."

"I don't know what people are made for. I suppose to make the world better. And sometimes they make it worse. Spend some of their energy making it worse and some of their energy making it better. Think of their fighting! If there weren't any people think how many passenger pigeons there would be. People who aren't any use! Isn't it a great sorrow!"

When seven, speaking of a wasp's nest that had been destroyed, she said: "They are as nice as you. Animals are as nice as people. Why do we live?" I asked what she thought and she answered, "For pleasure and unhappiness."

"Deer and birds are alike in one way because they both eat food. They are alike because their clothes grow on them."

"People are animals that don't have tails. Most animals have tails."

"I wish nature hadn't let man discover guns and then he couldn't have shot the birds."

"The trouble with nature is the pests. Everything has its pest. We have gnats and mosquitoes."

When she was eight she heard someone make the statement that there were too many people in the world. "Yes," she agreed. "They are killing off all the animals."

"Why did people kill the passenger pigeons?" "I don't think people are half as nice as animals." "I think people do more bad than good."

"If people only had wings and a tail that would be all they'd want."

"Baby is like an animal because she doesn't understand what we say."

"You know I like animals better than people. I like them better than white people any way for they make so much trouble wherever they go." Her distinction here was between white people and Indians, the attitude of the latter towards nature meeting with her approval.

I was trying to induce some interest in her despised number work by telling her how our civilization was dependent on arithmetic, but she had an answer ready: "Civilization has killed off so many animals that I'm quite disgusted."

"If nothing ever died, you couldn't walk anywhere without stepping on something alive."

As we were picking black-caps, she mentioned the white on them, something I had never noticed before. "In our life the youngest are the softest, but in the raspberry's life the youngest are the hardest."

"I call snakes mostly tail."

"I wish meat came from plants. People have to kill things. If potatoes came from toads—that wouldn't be very nice."

"I think one reason animals fear fire is that they can't handle it. Only monkeys could; the others don't have the right kind of paws."

"You can't tell real animal stories, can you? You can't tell what the animals think."

"Why don't animals own themselves? Why do these ape-like animals without any tails and funny fur and long hair have the say about them?"

"Why do people think they're so precious and not the animals? Except the animals they buy themselves—for instance, cows?"

"Do you think animals are as precious as people?" I asked.

"Why not? People are a kind of animal."

"What about leeches?" I inquired.

"Well, hunters act the same way."

When she was nine I asked her whether she thought people or animals were nicer.

"They're just the same," she answered. "Some animals are nicer—like rabbits—because they don't get up terrible wars."

"I don't see why animals don't have as much right to live as we do."

"What animals, for instance?" I asked.

"Beavers—and nice animals around—and doves."

"What about mosquitoes?" I suggested.

"I said *animals*. Of course I wouldn't mind killing off parasites. But I think it's just horrible to kill quail and other nice birds and just kill them for merely fun—like a weasel."

"I should think people would learn to look out and not do as they did with passenger pigeons."

"It might be nice to shoot if you're doing good, but just to shoot and shoot!"

Another time she said: "I suppose some animals think our babies and we—because we haven't any hair—are hideous!"

"I don't think it's nice to go on wanton slaughter. If you feed a thing and give it nice things, then you'd have some right. But if a thing is wild and doing lots of good—. I don't call it bad to step on a green worm that's eating up your plants."

" They never pay any attention to the orphan birds, but just jump and do it any time."

When on a walk we heard a gun shot, and this lover of nature said, " I hate to hear shooting. It means death and death and death."

" Flowers fade away when you pick them. Birds are much more beautiful alive than dead. I wouldn't kill a robin for six hundred dollars. They're just as precious as anybody else."

EDUCATION IN MATTERS OF SEX

By Henry S. Curtis, Ph. D., Oberlin, Ohio

Up to about two decades ago the general conception of education was that it consisted in acquiring knowledge. But just as this concept has proved inadequate in general education, in sex matters, also, it is inadequate. An adequate sex education must consist of four parts: the acquiring of information; the development of a proper attitude; the strengthening of the will; and the development of positive ideals of love and marriage.

It has been said that sex instruction is useless as it will not prevent immoral conduct. This argument supposes that the sole purpose of sex education is to prevent dissipation; but this is only one aim. However, knowledge always restrains some. It will keep some girls from stimulating boys unduly, and protect some girls from procurers. It should be a real preparation for marriage and parenthood which is the most important consideration.

Wherever there are little children of both sexes in the family, their first sex education should come through often seeing each other naked at bed time or in the bath, so that there should be no curiosity on the part of the boy or the girl in regard to the other sex.

During the war sex instruction has been carried on in the American Army and also in civil communities throughout the United States on a scale that has been previously unprecedented. Both the army and the civil authorities are agreed that this work has been successful and has been largely responsible for reducing the venereal rate both in the army and civil communities. A large part of the appropriation of $2,000,000 to the states for social hygiene has been used in sex education, as has much of the appropriation to the United States Public Health Service, beside the special appropriation to State Normal schools and Universities.

The results of teaching have been wholesome. It is hard to imagine instruction which would not be an improvement over the information which is handed down from dissolute adults to the older children and passed around from child to child. Dr. Exner, one of the International Secretaries of the Y. M. C. A., having special charge of its sex instruction, reports that there has been a great decrease in venereal diseases where-

ever sex instruction has been given to college men. Dr. Warthin reports that at Ann Arbor the number of cases of gonorrhea has decreased from nearly a thousand to less than one hundred annually, and that syphilis is now almost negligible. The results in our new army have been very satisfactory. Professor Bigelow says in his volume on "Sex Education," "Many of my friends and former students have helped me accumulate long lists of cases in which scientific knowledge regarding sex has prevented or corrected matrimonial disagreements; and having easily found so much definite influence of sex science upon marriage, I am forced to believe that sex instruction especially organized for people of marriageable age is already giving results of tremendous importance to very many individuals."

All education seems to have sprung from sex education originally. In nearly every primitive tribe there is a longer or shorter period of education which comes at puberty and includes instruction in sex matters and the secrets of the tribe.

The most serious difficulty in regard to sex education is the traditional attitude of mind toward the subject. This attitude is commonly known as prudery. It regards sex as unclean and perhaps loathsome, and the sex relationship as a purely physical one. It is this attitude which is in part responsible for the prevalence of prostitution, for this is exactly the phase of the sex life which prostitution represents. Carried into marriage, prudery means unhappiness and often divorce. It represents a complete failure to appreciate the spiritual side of sex. I agree absolutely with Mr. Gallichan in his estimate of it in Social Hygiene, July, 1919.

"This factor of intellectual and moral degeneration is as far removed from modesty as love is from hate. . . .

"Analyzed to its fundamental source prudery is the morbid dread of the human body, mingled with lascivious secret feeling. Absolute modesty banishes prudery. . . .

"Prudery is completely inimical to rational and moral estimates of sexual love. . . .

"After many years of research, I am convinced that a prudish upbringing of children of both sexes prepares the way of future irregularity in sexual conduct, the formation of an inveterate auto-erotic habit, the development of perverted impulses, unhappy wedlock, and several kinds of hysterical and neurotic disorders. . . .

"Prudery and indecency have proved a terribly hostile alliance against purity of thought and conduct. Sex can only be saved from the swamp by the strong aid of scientific knowledge and scientific ethics."

SEX INSTRUCTION IN THE HOME

The ridiculous stories that have been told children in regard to the origin of life and the source of babies have been mis-

chievous and cause distrust of parents when the children get this information from other sources.[1] Telling the truth establishes a new sympathy and understanding and makes possible those later intimacies on which sex instruction by parents must depend.

The parent should answer the child's questions honestly as they arise, but never stimulate interest nor go into processes about which he is not yet curious. At some time before puberty the girl should receive from her mother instruction in regard to its phenomena, and the boy should receive similar instruction from his father.[2] The parents are often very ignorant, some have the wrong attitude, and many do not understand what is desired. But, it is hard to conceive that the instruction of the parent should not be better than the instruction of the street. Every mother is competent to tell her child of the source of life, and the girl something of the phenomena and hygiene of menstruation.[3] She can tell the girl something of her responsibility for the conduct of boys, and about the hymen or maiden head as the seal of maidenhood. There can be no doubt but the feeling that this should be unbroken at marriage is often the greatest protection to chastity.

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[1] "As Canon Lyttleton remarks, in urging that the laws of the transmission of life should be taught to children by the mother: 'The way they receive it with native reverence, truthfulness of understanding and guileless delicacy, is nothing short of a revelation of the never-ceasing beauty of nature. People sometimes speak of the indescribable beauty of children's innocence. But I venture to say that no one quite knows what it is who has foregone the privilege of being the first to set before them the true meaning of life and birth and the mystery of their own being. Not only do we fail to build up sound knowledge in them, but we put away from ourselves the chance of learning something that must be divine.' . . . There can be no doubt that, more especially in highly intelligent children with vague and unspecialized yet insistent sexual impulses, the artificial mystery with which sex is too often clothed not only accentuates the natural curiosity but also tends to favor the morbid intensity and even prurience of the sexual impulse." Havelock Ellis, Studies in the Psychology of Sex, Vol. VI, pp. 46 and 50.

[2] "Passing now to sexual pedagogy and regimen, the world presents probably no such opportunity to religion, the moralist, teacher, the wise father, the doctor who is also a philosopher, There is no such state of utter plasticity, such hunger for vital knowledge, counsel, sound advice." G. Stanley Hall, Adolescence, p. 463.

[3] "It is only essential that she should have the most absolute faith and the purity and dignity of her physical relationship to the child, and be able to speak of it with frankness and tenderness. When that essential condition is fulfilled every mother has all the knowledge that her young child needs." Havelock Ellis, Psychology of Sex.

SEX INSTRUCTION IN THE ELEMENTARY SCHOOL

The elementary school offers the greatest problem. Instruction can not now be given by the teachers because they have not the information. The classes usually consist of both boys and girls, and there is little or no study of biology through which a natural approach to the subject might be made. The instruction which has been given has not been satisfactory.

There are many who hold that all sex instruction should be given indirectly, and that if sex references in literature and history and biology were not dodged, but treated with the same directness that other matters are, there would be no need for special instruction. The same argument might be made for any topic. All the arithmetic might be taught incidentally to domestic economy and manual training, the grammar incidentally to conversation, geography to reading books on history and travel, and reading in connection with any subject. Every subject is involved in every other and may be taught incidentally to it. However, it has not thus far proved a satisfactory meathod of teaching, and there is no reason for thinking that sex instruction under present conditions, can be satisfactorily given in this way. Sex is always avoided by those who deal with it incidentally.

Sex education in the elementary school should consist chiefly in the development of a wholesome school life with a proper attitude toward sex, the creation of strong interests and a vigorous body that will not be abnormally sensitive, and the placing before the children in the upper grades ideal pictures of love and home life. The sex problem of the elementary school is greater than anywhere else. It is here that the language is most obscene, that there is most discussion of sex themes, and as all the studies show, it is at some time during the period of the elementary school that the children get their lasting impressions in regard to sex matters. By thirteen or fourteen the majority of boys at least have begun evil sex practices, and in general the children in the seventh and eighth grades are entering the period of puberty. For the older and more stupid children in these upper grades who do not find study interesting, and who are already pubescent, there are many temptations. These children are apt to be irregular in attendance, and the truants and loafers are the ones who are subject to most temptations. These children not going on into high school, must be given instruction at the elementary school if at all.

There is an advantage in giving as much sex instruction as possible before puberty, as this information will then be less exciting, and will prevent misinformation later.

SEX INSTRUCTION IN THE HIGH SCHOOL

In the high school there are greater opportunities and much is being done. In some they begin with the study of the pollenization of plants, showing the method of fertilization, following this through the fishes and frogs, and possibly finishing with some form of reproduction among the lower animals. Biology can do much to give to sex a reverent and scientific setting. But sex is a topic which pervades every field of life, and can be approached through physical training, physiology, psychology, sociology, ethics, or domestic economy as well. Temptations are primarily a psychological and ethical question, disease is a medical question, and marriage chiefly a social question.

In most books on physiology, reproduction is not treated. This is wrong; but seldom can a text book in which human reproduction is fully treated be studied in a mixed class. However, this seems to have been done very satisfactorily in Grand Rapids. (See Public Health Bulletin on this subject.)

Probably about as much instruction is being given in connection with physical training as any subject. In many schools physical training and hygiene are classed together, and talks on hygiene cover sex hygiene as well. Some instruction belongs here, for there is always a question of venereal disease in connection with toilets, towels, drinking cups and swimming pools. The man physical trainer usually sees his boy students naked and has an opportunity to know more than anyone else about them. As the coach of the football and baseball teams he has to see that they keep in condition, and it is in the celebration of football victories and similar occasions that many young men get their first experience with the underworld. The same intimate relations prevail between the woman physical director and her girl students, with the added fact that she must always consider the girl's health at her monthly periods. This places her in a position for intimate talks. The physical trainers who are graduates of the standard schools have already received some instruction in sex physiology and hygiene.

In Germany instruction has been given to the students of the Gymnasia, through special lectures, during the last twenty or twenty-five years, and two national conferences were early held. In Ontario, Canada, during the last decade, instruction has been given to the students in the high schools by doctors who are employed for this purpose. In our high schools where there is a dean of girls, she is often either herself giving or securing special sex lectures for them. These are usually very brief courses of from one to six lectures. There has been much criticism of these by those who hold the old-

time attitude, and there is a sentimental type of talk which does more harm than good. But all who have spoken simply to young people on this subject have told of the earnest attention which has been given. The percentage of those who blush or show a wrong attitude is negligible.

Is sex to be a new specialty in teaching, and shall we soon have a supervisor of sex instruction the same as we now have a supervisor of drawing or manual training? There would be certain advantages in this. It is not unlikely that there will be such a person in many of our larger systems. It is difficult to select such teachers from other departments. The sex problems are among the most important problems of society. They bulk large in regard to morality and social welfare in every city. If we had a competent specialist, either in connection with the city health department or with the schools, who might keep in close touch with moral conditions in the city and the schools, advise as to needed regulations and laws, give instruction to the students in the high schools, and organize courses for parents in the evening, it would be a great advantage.

A great need of sex delinquents, as psychoanalysis has shown, is confession, because the sins committed and hidden and dwelt upon grow into festering sores of the spirit, destroying its joy and spontaneity and ofttimes perverting the character. There should be a sex confessional in every city and probably a private telephone so that anyone could call up this person for advice if he wished without revealing his identity.

SEX INSTRUCTION IN THE COLLEGE

No young man or young woman should be graduated from any college as ignorant of matters of sex as were the majority of those who took their degrees five or ten years ago. These young people are of marriageable age and most of them will be married soon after graduation.

If during the elementary school and the high school period the proper attitude has been developed and a sufficient amount of preliminary instruction given, it should be possible to present to each sex separately in college the more important matters of sex simply and with reasonable fullness. Sex should be treated in connection with all courses in biology, physiology, physical training, psychology, sociology, ethics, and domestic economy. But until those who are teaching these subjects have been themselves enlightened it is hopeless to expect an adequate treatment from them. Somewhere during the four years of college, a short course should be given to every student.

At present such instruction is being given mostly through brief courses of lectures, generally by members of the medical school staff, if the university has a medical school, or otherwise by local or special doctors. This may be necessary at present, but instruction in sex through a course of lectures is subject to the criticism that the average student does not remember accurately what he has heard only once, and that the sex problems of each age are different.

SEX INSTRUCTION IN NORMAL SCHOOLS

The main problem of sex instruction lies with the normal school, and the question as to what is to be done in the future is largely being determined by the kind of instruction the prospective teachers are receiving. In most of the larger normals sex instruction will probably be a part of the regular course of every student within a few years.

There are many reasons for feeling that this is necessary. The normal student needs the same instruction in regard to sex that the college student needs for his or her own sake, because the average teaching period is only five years, at the end of which the majority marry and soon become parents.

But there are additional reasons why the teacher should be informed. She has to deal with problems of sex in the administration of her class room and in the outside life of her children at recess and in going to and returning from school. She may hide her head in the sand but this will only make the problem more serious. She has constant opportunities for indirect teaching of sex in connection with literature and nature study and play.

For 1918 and 1919 the Inter-Departmental Social Hygiene Board has made an appropriation each year of $300,000 for introducing sex education and for sociological and educational investigations in discovering more effective methods. in teaching sex hygiene. Thirty universities and normal schools had up to June, 1920, received such appropriations, and much strengthened courses will soon be given in all our public normal schools.

At Teachers College, New York City, was given in the summer of 1920 a very notable course on Sex Hygiene under the direction of Prof. Bigelow with the co-operation of Col. Snow of the Public Health Service. This course had a regular enrollment of seventy-five with an attendance at the lecture of from 175 to 300.

At the convention of the National Education Association at Salt Lake City in July, 1920, the educators of the country went on record as favoring "the teaching of social hygiene

in all teacher training institutions, and the co-operation of teachers with all organizations of parents in the instruction necessary to the inculcation of sound ideas and attitudes in children and youth as to the essentials of social hygiene."

In its platform of 1920, the Democratic party pledges itself to a continuation of the appropriation for education in sex hygiene.

SEX EDUCATION IN MEDICAL SCHOOLS

It is often assumed that any man with an M.D. may be a teacher of sex. This is far from being the case. The ordinary physician is only superficially informed on sex subjects, and often has an attitude toward them which the school should not encourage. While genecology is, next to neurology, the largest department of medicine, it is largely in the hands of quacks, and few medical schools, until very recently, have given adequate courses.

With the growth of venereal clinics, venereal wards in our hospitals and free compulsory treatment of venereal patients, there is every expectation that the hygiene of sex will receive more attention in the medical schools, and well trained teachers of sex may soon be developed.

However, the subject is surrounded with nearly Egyptian darkness, and our knowledge of the deeper phenomena is very superficial. Sex is worthy of a special research foundation. It is quite conceivable that more information on the nature of sex and the ways of its stimulation might offer a direct answer to many of our problems.

One hundred thousand dollars has been set aside during 1918 and 1919 to be distributed amongst medical schools for special researches in the venereal diseases and their treatment. Sixteen medical schools have thus far accepted appropriations from this fund, and thirty-one investigators are carrying on researches.

INSTRUCTION TO PARENTS

Most of the instruction of young children should be given by parents, but the parents must be taught if they are to teach their children. In the social centers of some of our cities such courses have been given for years. Under the State Departments of Social Hygiene many such courses have been given during the last two years.

INSTRUCTION THROUGH THE FAMILY DOCTOR

It cannot be expected that all of the instruction which young men and young women need before marriage can be given to them through a text book or a course of lectures, and it would be a wise policy if every young man and young woman should either go to the family doctor or some trusted married friend for further information before marriage.

INSTRUCTION THROUGH LITERATURE

The taboo is being removed and more and more data on prostitution, the segregated district, illegitimacy, etc., is appearing in newspapers and magazines. There is also a flood of new books. The United States Public Health Service and the State Health Departments are now issuing a series of bulletins which cover nearly every phase of sex education. There are several good books for boys and girls of High School age among which I would mention Dr. Winfield Hall's Reproduction and Sexual Hygiene for Boys, and Dr. Mary G. Hood's For Girls and the Mother of Girls for girls.

INSTRUCTION THROUGH MOVING PICTURES

A good deal of information, or rather misinformation in regard to sex has been given through moving pictures. The film "How Life Begins," is reasonably accurate. "[4] It is intended primarily as a lesson in sex-education for boys and girls of high school age and even for older people and mothers. * * * "It begins with the simplest forms, protozoans and yeast, and concludes with mammals, such as rats and kittens." The development of the pea is shown from the earliest union of the pollen with the ovule, and the fertilization of the egg of a sea-urchin is pictured. The hatching of the swallow-tail butterfly is described from the moment the female lays her eggs." * * * "After the pictures have made it clear that in each case of a flowering plant and a higher animal, 'life begins in a fertilized cell,' the film declares that it is 'by the same processes of growth and development that the human being comes into life,' and the final scene is that of a smiling child creeping about on the floor. The film has been produced by George E. Stone, of Berkeley, California, in collaboration with Prof. J. A. Long, Assistant Professor of Embryology in the University of California."

An appropriation has been made from the funds of the Inter-Department Social Hygiene Board to Johns Hopkins University at Baltimore for the study and possible production

[4] From The Survey.

of moving picture films on sex education. The moving pictures which the Public Health Service now recognize at satisfactory are the following: "Fit to Win," intended especially for male adults; "The End of the Road," intended especially for older girls and women; "How Life Begins," and "Open Your Eyes," for general audiences.

PAMPHLETS AND BULLETINS

During the war a vast number of pamphlets were prepared by the Y. M. C. A. and some by the army describing the dangers of the venereal diseases and sex dissipation. It is patent that tracts and pamphlets in general which are distributed in this way to groups of men are not usually read. However, my experience in the army is that these pamphlets were nearly always read and generally preserved. The men often came to ask for more copies. The treatment was always brief and pointed and seemed to carry the information which the men wanted. The United States Public Health Service has now a fine series of bulletins which cover nearly every phase of the subject.

BY PLACARDS

The placard or poster has come into an unprecedented use of late, and in this war it became the main means of propaganda in all countries. Some of the war posters issued in France are notable as art, for their effectiveness in conveying their message.

Posters with striking appeal to the men to be loyal to home ties, and wives, sweethearts, and mothers, were posted conspicuously in all army camps. Many of these were attractive merely as posters. Where men are apt to tear down notices which seem to them "goody-good" or to have much preaching about them, these posters were never disturbed in the camps with which I was best acquainted. In civilian communities in this country the United States Public Health Service had, by June 1920, placed 64,892 framed placards in railroad stations and cars, while the different state departments of health have placed such placards in practically all public toilets and in many other conspicuous places. These placards tell of the venereal diseases, of how they are contracted and the dangers involved. They warn men against quacks and patent medicines and urge immediate and thorough treatment if disease is contracted. Many also tell places where free advice and treatment can be secured.

THE SOCIAL HYGIENE EXHIBIT

One of the main means of education in the army was through the use of a social hygiene exhibit. These were usually placed in charge of a sergeant who went with his exhibit from camp to camp. During the latter part of 1918 there were about fifty of these sergeants who were moving about with these exhibits. The exhibits were always well attended and the men showed a genuine interest in them. It usually consisted of a series of charts with good illustrations, of sets of lantern slides or post cards, and in many also there was a steremotograph, or machine by which a series of lantern slides highly illuminated, were shown in succession. The series covered nearly every phase of the subject.

BY LECTURES

The chief means of sex education, however, has always been by lectures, and this was true no less in the army. There were certain lectures on this subject detailed by the Surgeon General's office, and there were a considerable corps who were sent out by the Y. M. C. A. The Y. M. C. A had a special social hygiene department under Dr. Exner, with Professor James Nasmith in charge of the work in France. No lecturer ever had a better audience than the doughboys of the A. E. F. They always paid the closest attention and usually wished to ask questions afterward. As to the extent of the work carried on by the Y. M. C. A., Dr. M. J. Exner has this to say:

"Following statistics show in a measure the scope of the work done: Lectures given, 1,754; total attendance, 1,361,065; pamphlets distributed, 7,200,000; books circulated, 60,000; sets of exhibits used, 885; posters used, 40,000; films used, 24."

But the work was not by any means confined to the army, or the Y. M. C. A. The Y. W. C. A. also had a Speakers' Bureau talking to the girls in industrial plants, in the Patriotic Leagues and in other places. Miss Davis, in charge of this work, reports as follows:

"In all, since the 18th of March, lecture work has been carried on through the Speakers' Bureau in thirty-one states, one hundred and twenty-three cities and towns. 1,785 lectures were given by forty-five individual lecturers."

But probably the most extensive work of all has been carried on in connection with the various state departments on venereal diseases and the United States Public Health Service. The number of people reached is up in the millions.

All the lecturers have the same story to report—the eagerness of the audience and the almost universal desire for questions and private conferences afterwards.

In the writer's experience as a lecturer on this subject at Teachers' Institutes and in connection with courses in Play and Physical Education, seldom has he seen evidence of any embarrassment or wrong attitude on the part of the audience. It is undoubtedly the subject on which you get the best attention with the least effort.

When these measures are considered as a whole it will be seen that the problem has been attacked from many points of view, and an amount of instruction has been given during the last two years far in excess of what has been given during the entire history of the world before. The results of this instruction are already becoming evident. The young men who come back into civil life from the army have received considerable instruction, as have also the employees in very many industrial plants. The quacks and patent medicine vendors have largely been driven out of business; and there has become available a long series of pamphlets and bulletins describing plainly and simply the main problems of sex. There are now several and soon will be many more excellent films dealing with this subject. We have secured through the army definite data as to the prevalence of the venereal diseases, and there is a new hope that it is possible to eliminate prostitution and its attendant diseases. The universities and normal schools are securing new data and more and more accurate material is becoming available for instruction every month. When all of these facts are considered together, it will seem that the war has brought in a new era which is much more promising than any preceding period of human history.

A BOY'S DEVELOPMENT AT EIGHTEEN MONTHS

By Miriam E. Oatman

This paper is an informal study of the general development of an eighteen-months-old boy. His mother has felt it worth while to make such a study for two reasons: first, because few vocabularies of boys of this age have been published, and it seems desirable to collect as many as possible in order that they may be compared with the fairly numerous published vocabularies of girls; second, because the child in question seems to have departed from the generally accepted rule that physical and mental growth alternate, and that one cannot be expected to a marked degree while the other is in evidence.

Ancestry

J., the subject of this discussion, was born in Oklahoma City on September 21, 1917. His ancestry is predominantly English, with strains of French, Welsh, Irish, Scotch-Irish and German blood. All branches of his family, however, have been settled in the United States for generations; and J. represents from the third to the tenth generation in the various lines, born in this country.

His parents are teachers and writers. Both are descended from families which have shown strong strains of literary interest and ability. As will be demonstrated later, this interest seems to display itself in J. His parents differed greatly in their rate of mental development, and for this reason they have observed J. somewhat closely, in order to determine, if possible, whether he has inherited in marked degree the characteristics of either. J.'s father was very slow in learning to talk. He is naturally left-handed, and interference with this tendency may have been a potent factor in delaying his speech.[1] However, he was slow of development in other ways, such as teething and walking. J.'s mother appears to have been precocious. She is said to have talked and walked very early, and to have identified all the letters of the alphabet from her blocks at the age of eighteen months.

[1] See Nice, M. M., Ambidexterity and Delayed Speech Development. *Ped. Sem.*, June, 1918.

Environment

J.'s physical environment has been one that seems to an adult rather uninteresting. He has spent practically all his life in an Oklahoma town of some four or five thousand inhabitants, increased during most of the year by hundreds of students attending a large university located in the town. There are no hills, rivers, or other prominent physical beauties to be seen. However, the town contains many trees, and the buildings are for the most part small structures surrounded by lawns. Various kinds of live-stock pasture in vacant lots; and many birds nest in the trees during the spring months. For all practical purposes, the child is living in the country; and his surroundings, despite modern plumbing and electric lights, are very simple and natural.

His social environment has not been all that could be desired, as J. is an only child. His parents have made a point of playing with him a great deal, not in pedagogical fashion, but in pure fun. In many ways, however, they have endeavored to help him to realize his situation as a member of society. Thus, they invent numbers of little games which consist in passing some object, as a knife, a spoon or a ball, to each member of the family in turn; or in giving each one a taste of apple. The relation of the individual to his fellows, the elements of justice, and the beginnings of a sense of fair play, are thus learned by the child while he is laughing with joy over the delightful game.

J.'s society, of course, is not limited to his parents. He is frequently allowed to visit friends, both adults and children; his parents encourage the visits of other children; and when there are guests in his home he is a member of the social group. His joy in the society of children is very great; and the first proper name which he learned is that of a little girl of three with whom he often plays.

Individual Development

J.'s development has not seemed to follow closely that of either parent. He was undernourished for several months in early infancy, and cut no teeth until the forty-ninth week. From this to the fifty-third week, inclusive, he cut four teeth in all; and now by the end of his eighteenth month he has cut twelve. For a long time he rolled rather than crept; and he can hardly be said to have crept easily until the tenth or eleventh month. At one year he could raise himself to a standing position by catching at furniture, and could maintain this position for a long time. By the time he was fifteen

months old he walked easily by holding to furniture, and in his sixteenth month he began to venture a step or two without support, soon learning to walk very well. In his eighteenth month he could take long walks, and began to develop the habit of setting off alone upon excursions through the neighborhood. He now appears to be right-handed, though he still employs the left hand quite frequently.

The interesting feature of J.'s development is, that contrary to the commonly accepted view that periods of marked physical and mental growth alternate, in J. they appear to have coincided. Thus, at the end of one year he was hardly venturing a single step, even when holding by some support; he had but three teeth; his weight was barely normal; and his vocabulary consisted of five words, mama, dada, bo (bottle), chick-chick, and na-na (objection, as no, no). At this time he would imitate various sounds and actions.

During six months he has learned to walk, run, climb steps, go down steps, place his head on the floor as if about to turn a handspring, and otherwise control his muscles; he has cut nine teeth, gained three inches in height and[2] several pounds in weight; he has developed a vocabulary of more than one hundred words, and has begun to frame short sentences. His imitation of sounds and actions has increased in like ratio. He will endeavor to imitate almost any sound that may be suggested to him. He tries to dig in the garden, to use broom, brush, and dustpan, to take ashes from the stove, to dance and to imitate many other familiar types of behavior. His energy and activity seem almost boundless, and his interests cover a very wide range.

Interests

The following lists of words, comprising J.'s vocabulary at eighteen months, will show many of his principal interests.

I. *Words for Persons*

Baby
Barbara
Carl
Daddy
Lady
Mamma
Man

II. *Dress and the Toilet*

Bath
Button
Coat
Collar
Comb
Didy
Hat

[2] It was not possible to weigh J. at eighteen months, as he was too heavy for the scales which had been used earlier and no others were accessible. His weight was above the average.

Pin
Pocket
Powder
Shirt
Shoe
Stocking
Tie
Trousers
Wash

III. *The Body*

Chin
Ear
Eye
Finger
Hair
Hand
Head
Nose
Piggy (Toe)
Teeth
Toe
Tummy

IV. *Fires*

Coal
Fire
Light
Pail
Poker
Shovel
Stove
Wood

V. *Food*

Apple
Bottle
Butter
Cracker
Good
Sweet
Toast
Water

VI. *Interesting Objects*

Bag
Bed
Block
Boat
Book
Box
Car
Carriage
Chair
Clock
Cup
Door
Home
Knife
Paper
Pen
[3]Tick
Wagon
Wall
Watch

VII. *Nature*

Baa
Bee
Bird
Chicken
Cock-a-doodle-doo
Cow
Dig
Flower
Goose
Hum
Kitty
Moo
Sky
[4]Teddy
Tree
[5]Tweet

VIII. *Miscellaneous*

Away
Boo
[6]Boom
Bump
Come
[6]Cuckoo
Go
Goodbye
[6]Ha-ha
[6]He-he
[6]Ho-ho
Hot
Nice
No
Oh
Open
Out
Play

[3]Used as a general name for clock and watch.
[4]His toy bear.
[5]The sound of birds and little chickens.
[6]Meaningless play-sounds.

Pretty	IX. *The Alphabet*
Ride	A
[6]Roar	O
Sliver	T
Shut	

It is impossible to say that the relative strength of J.'s interests, or their entire range, is represented in his vocabulary. Of course, there is a constant shifting of attention, as the seasons change and the childs' powers develop, so that at any given time J.'s most intense interest may be a new one for which he has few words.

In addition to those interests plainly indicated in his vocabulary, J. displays several others, notably one which has already been mentioned, a pleasure in the companionship of children. He is also very fond of music, both instrumental and vocal, laughing and giving unmistakable evidences of extreme pleasure when he hears it. He enjoys trying to sing, and to play the piano. When taken into his mother's arms he sometimes begins to hum, apparently as an indication that he wishes her to sing to him.

He enjoys hearing nursery-rhymes and little jingles, and shows the most flattering absorption in the simple stories that are told him. His parents have told him stories for a long time, but during his eighteenth month they began to compose tales of his own adventures, couched largely in his own vocabulary. Their reward was great when to the rhetorical question, "What do you think the cow said?" J. responded, "Moo!" Since this eventful time he very frequently inserts appropriate words into the tales.

During his seventeenth month J. developed a strong interest in the alphabet; or, more definitely, in printed material and in the letters A and O. His parents had no intention of teaching him these; but when A was made for him as a diversion from ordinary play, his pleasure was so keen, his practice of the pronunciation so assiduous. his memory for it so good, his delight in seeing A in a book so great, and his general evidences of intense interest and joy so unmistakable, that O was drawn for him a day or two later. It was received even more gladly than A. His mother's notebook contains the following statement: "He sometimes uses A or O apparently to represent the idea of print or letters; but he can definitely distinguish the two letters, and name them. He can point to O or A in reply to the question 'Where is O?' or 'Where is A?' and he can reply 'A' or 'O' (correctly) in response to the question 'What is this?' His interest in this matter is intense. He frequently brings paper and pencil

to his parents, saying 'O' or 'A,' indicating his desire to have the letters printed for him; or he takes a newspaper or a book and examines it, saying 'O' or 'A.' He tries to print these letters, but with small success."

Later the letter T was learned in the same way. J.'s absorption in books and papers almost alarmed his parents, who had no desire to see a precocious mental development; but as the weather moderated and outdoor play became possible, this became J.'s primary interest, and his literary proclivities fell into the background.

An interest in books, papers, and pictures had been plainly shown since J. was about fourteen months old. Of all the toys which he received at Christmas, when he was fifteen months old, he developed a passion for only two, a wagon and a picture book. The latter he carried about for days, and it has continued to be one of his most treasured possessions.

Use of Language

It should be noted that J. seems to be interested in words as such. To all appearances he is delighted to hear the name of an interesting object, or the verb for an interesting action; and if the word happens to appeal to him he will not only endeavor to pronounce it, but will practice it with zeal.

J. has the habit, common among young children, of making many of his words do duty as generic terms. His classifications are extremely interesting. They appear to be based on either appearance, or use and behavior, occasionally upon both. In the first group would come such uses of words as "hair" for fine silk fringe, and "light" for the bright gilt edge of a book; in the second group would come the use of "comb" for a hair-brush, and "teeth" and "shoe" for, respectively, a shoebrush and a tooth-brush; in the third group may be mentioned the use of "comb" (i.e., brush) for a broom, which has the appearance of a brush and is used in a similar way.

Certain words and sounds appear to J. as funny in themselves. The word "Cuckoo" in a song amused him greatly; various foolish sounds appear to make a humorous impression; but the word "Boom!" is to him one of the funniest things that he ever hears. It is interesting to see how he laughs at collections of absurd syllables; but to explain why they impress an infant, with little basis of comparison, much as they impress adults, who are supposed to be amused by their incongruity with ordinary language, would require a knowledge of genetic psychology, philology, and aesthetics, far beyond the present writer's attainment.

J.'s first sentence was "Go away," meaning, I wish to go away. This occurred early in the eighteenth month. Later he said, "Daddy come," and "Home mamma." In the seventeenth month he said "By-by-ma-ma," but in such a manner that it was not possible to be sure that he had connected the two ideas, which appeared to be successive and unrelated.

Personal Qualities

J. has already displayed many pronounced tendencies of the type that will later become what are commonly called traits of character. One of the most striking of these is a certain friendly attitude toward other persons. This is perhaps one aspect of his intense interest and pleasure in all the experiences of life, but it seems to be of a particular type, revealing a certain "consciousness of kind." His attitude toward the world is one of eager curiosity and abounding joy. He is extremely playful, and has a decided sense of humor, which of course is aroused by very simple and primitive stimuli, such as a strange gesture, or a very evident incongruity, like placing a pillow upon one's head. He seems to think very clearly, to make his little decisions without hesitation, and to act upon them unfalteringly. He trusts life in most respects, and meets nearly every new situation with confidence and courage. He is exceptionally reasonable and patient, and will nearly always wait quietly if told that a ride or walk will take place presently, but must be postponed until certain preliminaries are carried out. He is apparently affectionate, though not markedly or sentimentally so; and he has many generous impulses to share food and other treasures.

Naturally, less pleasing traits have displayed themselves. J. has one fear that is almost a "phobia"—the dread of hot things. He has never been severely burned, and his parents are unable to trace the origin of this intense fear. He is just developing shyness, and unwillingness to remain with comparative strangers. He has displayed temper, selfwill, combativeness, selfishness, and jealousy. In dealing with these tendencies, his parents have endeavored to avoid arbitrary and irrational measures, and to employ methods which will make clear to the child his place as a member of a social group. A most effective plan has been that of telling him "goodbye," and leaving him, when he has been conducting himself in a disagreeable manner. It is recognized that the child has a right to a fully developed personality, and that many tendencies, such a selfwill, while socially undesirable if misused, are yet of positive value when properly applied. J.'s parents have

little faith, however, in the widespread modern tendency to permit a child's nature to unfold itself with as little guidance as possible. Realizing that the difficult transition from an instinctive and irresponsible creature to a responsible member of modern society must be made in a few years, they believe that the child is entitled to all possible assistance in controlling anti-social tendencies and developing socially desirable ones. Therefore they are studying J.'s unfolding personality with the greatest interest, and endeavoring to provide stimuli which will develop desirable traits of character. It is hoped that this emphasis on the positive will obviate any dangers that lie in the old-fashioned repressive methods, while at the same time anti-social tendencies will receive so little stimulation that they will naturally take a subordinate place.

Summary

At eighteen months J. is no longer a "bundle of instincts," but a "socius." He has a large control over the material world; he has many of the fundamental social tendencies or traits; he enters into social relationships of many kinds; and he has mastered the rudiments of that most human and humanizing influence, speech.

MOTIVE IN EDUCATION

By Albertine A. Richards

Probably no other public institution is so frequently attacked as the public schools. Much of the criticism is due perhaps to the fact that it has few champions to define its functions and delimit its responsibilities; much of it is due, however, to the fact that the rapid development of democratic education and the ever expanding conception of its function in the public mind have created demands which it could not at once meet, and situations to which it could not at once adjust itself.

The public itself does not know precisely what it expects the school to accomplish. It is criticized because it turns out what seems to be a standardized product—children all of a pattern, whose individualities have been destroyed by mass instruction as well as because it fails to turn out a standardized product—graduates having a definite body of facts and skills. No commonly accepted goal, or aim or function of elementary education exists in the public mind, or among educators; nor is it implicit in the system itself. As a result of this the school is trying to serve many masters and succeeds in serving none; it is not even consistent with itself. Both the business man who wants well trained cogs for his business organization, and the man of vision to whom the school is the agent through which the quickening of the spiritual and intellectual life of the masses will come about, are disappointed. The child as a product of the school is neither equipped with reliable knowledge and abilities, nor has he a fine appreciation of aesthetic value, scientific integrity, the desire for the unbiased truth, nor zeal and need for what is genuine, fine and elevating. It is a qustion whether it is the function of the school to develop these traits, whether indeed it is within its power to do so. What the aim of non-professional education is, is as yet a matter of opinion. How well any aim is served by education is largely a matter of conjecture and must remain so until more scientific data on the relative influence of heredity and environment are available. Nevertheless one factor remains constant mid changing views and diverging opinions. The school is expected, and justly so, to reach the goals which it is pursuing. It is the failure to accomplish its own avowed purposes which justifies the criticism leveled against it.

Just how drastic its failure is can only be known by those who are actually teaching. Only they can compare the investment in time and energy with the result; they know what they have striven for and what has been accomplished in concrete terms of factual acquisition, definite skills, and specific abilities. Only they know what energy has been expended to develop and train the child and how little it has changed the original constitution of the child.

In the early grades the teacher has noted with what strain the rudiments are acquired, the gradual waning of intellectual curiosity and the ardor to learn, and the suppression and repression of native tendencies. The sole profit of all this is the acquisition of a few tools—the ability to read, but not necessarily the desire to read nor a comprehension of what is read; the ability to write but not necessarily to think anything worth writing; a little number work, a more or less secure orthography, a vague remembrance of regions studied, of eras discussed, of literary masterpieces analyzed. On this foundation is superimposed the high school curriculum: Geometry and algebra succeed arithmetic; Ruskin's Essays, Burke's Conciliation, and Milton's Ode on the Nativity succeed the State Readers, the Courtship of Miles Standish and the Psalm of Life. Arrived at the Normal School, many a prospective teacher must be taught the facts of Grammar, Composition and Arithmetic before she can be taught to teach them; + 16 and —7 give plus 23; a common word like 'psychology' is spelled thirteen different ways by fifty girls by actual count. Ruskin is only a name even to many who read his essays in high school.

The 'howlers' perpetrated by young boys and girls make good reading, but the paucity of ideas, and the lack of orientation in the subject which they imply are far from being humorous. When a student who has studied Wordsworth's "Daffodills" completes the last lines which have been left unfinished thus—

> "And then my heart with rapture thrills,[1]
> And dances with the . . . . . .

so that it reads,

> "And dances with the Mormon rills"

one laughs. To forget a word even in so well known a poem is not of much consequence. On the other hand such absence of judgment, so little appreciation of its spirit and that of "The Lady of the Lake"[1] from which it is garbled, casts grave doubt on the value of this part of the student's education.

[1] "The stag at eve had drunk its fill
Where danced the moon on Monan's rill."

More discouraging than this even is the fact that instruction has not the power to stimulate interest and self activity. "English," by which is meant the study of literature and composition, is taught not only to familiarize the student with a few masterpieces, but is intended to open to him a new world of art and inspiration; to show him beauties hitherto concealed, to give him surcease from grim realities and practical ugliness. The composition is not merely a vehicle for the application of rules of form and punctuation, nor does it merely offer training in writing letters and reports. To assume that these are its sole functions is to limit it unduly. Why should it now be a means of self expression, another outlet for curbed desires, another form of recreation?

The general outcome of four years of high school instruction is typified by the results of an inquiry among fifty high school students concerning their literary activities. These girls represent the average school product—not the best who go to college nor the poorest who have dropped by the way. Only one girl had read a volume of poetry; not even one had read, since leaving high school, a volume of essays, a biography, or any book having a sociological, economic or historical significance. Not one had written anything but letters and obligatory reports. Indeed the general conception of the composition seemed to be that it is a medium for testing knowledge of punctuation and form and that its sole function is to give corporeality to disembodied periods and commas.

If it be argued that a love of literary pursuits requires specific abilities with which few are endowed, I can only add that an interest in science and philosophy are equally lacking even though these be construed in the simplest terms. Rarely does a keen zest for things intellectual show itself. The student does not enjoy thinking and resents having to do it. Rarely is the validity of a hypothesis questioned. There is almost no enthusiasm, no spiritual crying out for the truth. When these traits exist they have developed in spite of education, not because of it. This the biographies of great men make perfectly clear, though the fact that so few of the millions who attend school are so imbued is sufficient proof that the school can have little if any part in producing it.

The school world is very conscious of its failures. Newer aims are continually crowding out previous ones. New subjects are offered and taught in new ways. But the failure of the school to teach what it has set out to teach is not wholly due to poor methods nor to unwise selection of the subject matter. In all times and in all ages men have learned, no matter how stupid the topic or stultified the method; they

learned because they desired knowledge. Their minds leaped out to it, drew it from the driest source, and winnowed it from the chaff. The medieval students took devious ways to determine how many angels could stand on the point of a needle. Despite the discovery that he could do nothing with that knowledge, he labored and suffered to acquire it because he thought it was worth while. Only the few who really wanted education received it. The teacher did not need to create the desire for, nor point out the charms of learning. The modern educator deals with a mass which takes its educational opportunities as a matter of course. Some do not want education; some do not care whether they have it or not; some few actively desire it. If opportunities were varied enough perhaps all would seek it; if education could be shown to minister to personal ends, it would perhaps be welcome. We do not know, because we have not offered these opportunities. The educational system has made no effort to meet individual desires, because it is still acting on outworn theories and ignoring the insights obtained from modern psychology.

Long, long, ago, when the notion prevailed that the child's mind was a *tabula rasa,* education was conceived to be a matter of environment. School instruction and life experience formed the mind which was thought to be as plastic as putty, and quite as unformed and as receptive to impressions. The theory has long since been exploded, yet it is still implicit in educational practice. Educators are still postulating a receptive mental mechanism, still assuming the neutrality of the mind with regard to stimuli, still taking for granted a general responsiveness to all incoming perceptions.

That the contrary is the case is manifest. Though the stimuli be identical, the same experience acting on a variety of mental constitutions produces vastly different results. Practical experience gives this much. Furthermore, the absolute refusal on the part of the taught to accept certain types of training and experience, the utter impossibility of combating certain instincts and tendencies, offer unmistakeable evidence that the child mind is neither entirely blank nor entirely plastic.

Moreover, biological evidence to the contrary is incontrovertible. The human race has had a long and varied experience during which it has emerged from slavery to the environment, real or fancied, to a relative dominance over it. Its history is registered in the individual—in his instinctive, emotional and his physiological equipment and reactions. When modern man is angry or afraid he generally neither fights nor runs away. Certain socially derived consideration inhibit these

reactions. Physiologically, however, he is still the primitive man. When angry, his whole organism is prepared for action. The secretion of certain glands increases the blood pressure and guarantees rapid and forceful reactions; energy is made immediately available by the secetion of sugar; certain other secretions increase the coaguability of the blood, so that he may not bleed to death during the fight if he is wounded. The whole organism is integrated for action which is not likely to occur, and guarded against injuries and pain which are not likely to be sustained. Racial experience has engendered these reactions. The necessity for them no longer exists, but they continue because they are an ineradicable function of the central nervous and autonomic systems. It would hardly be correct to call these primitive residues vestigial traits, for they are only that in the sense that they are no longer as useful as they once were. They are still very powerful and constitute a significant portion of the psyche. G. Stanley Hall has compared the unconscious to the iceberg whose size is deceptive because three-fourths of it is submerged. The submerged portion, the unconscious, is composed largely of these primitive survivals. and like the submerged portion of the iceberg, it controls more or less the direction and momentum of the whole. Our primitive heritage manifests itself in various ways. We perceive and react to certain stimuli and ignore others; certain wishes and desires prevail, and certain activities are engaged in without much consciousness or idea of the end. These instincts and innate tendencies change from time to time. At one stage of a boy's life he is unselfconscious and individualistic. He dons his little Indian suit and struts up and down in full panoply all alone. Later he fears to attract attention, gathers to him choice spirits, and relives the ancient occupations of hunting and fighting with his gang. At a still later stage he scorns the play of phantasy, wishes to appear to be matter of fact, is afraid to transgress the conventions set by his contemporaries; the pursuit of an inamorata has displaced the pursuit of the enemy.

But it is unnecessary to trace the sequence of instinct. Such books as "Penrod" and "Seventeen" illustrate the changing activity, the shifting foci of attention, the constant revaluation of values taking place as the mind matures Instincts change from developmental period to developmental period, so that the psyche may or may not be open to certain impressions and responsive to certain stimuli, depending on how well they accord with the instincts dominant at the moment. Far from being plastic, the mentality functions in well defined genetically determined action patterns, which have

been handed down in a germ plasm upon which no acquired characteristic has ever been inscribed.

Nor is the racial experience the sole contributor of factors which rob experience of its influence in forming the personality. The child has an immediate ancestry which is different from that of any other human being—save that of his brothers and sisters. Two strains are united in him which make a contribution in equal parts to his constitutional composition. These components interact and react to produce a new combination. So fortuitous are these combinations that in spite of the validity of the Mendelian laws of heredity, we find a genius and a mediocrity in the same family. By virtue of his heredity, which is so peculiar to himself, he has certain aptitudes and talents, certain disabilities and deficiencies. These differences go hand in hand with differences in interest, in tastes and desires. What is hard labor for one is merely the pleasurable exercise of an existing ability for another; where one must be lured to interest himself, another avidly seeks; one child is permitted to read as a reward, another must be enticed to read, and so *ad infinitum* in illustrations too obvious to mention.

It is necessary to consider these differences because they give a distinct cast to the volitional life. Self preservation, self realization and the satisfaction of instinctive needs are the characteristics common to every member of the human race. They are the well springs of being and becoming. But they express themselves in many ways, for just as the self varies, just as aptitudes and disabilities change from individual to individual, so will motive which is grounded in these tendencies fluctuate. Not the subject matter nor the method, but how to tap the springs of energy is the great problem of education. The school has not only ignored individual differences, which cause the effectiveness of a motive to change from person to person, but it has ignored the matter of motivation entirely. It has never availed itself of the real energizers by adapting its work to the individual's possibilities or by calling into play the native tendencies. Instead of weaving itself into the child's life and offering itself as material of voluntary activity, it has superimposed itself on his personality as a burden to be struggled against.

The psychology of motivation has yet to be written. One fact, however, may be asserted without further scientific corroboration: The individual does a thing because he wants to or because he must. Spontaneous activities are those which are inherently interesting, which exercise a latent capacity or talent, or which are the expression of an instinct. On these assumptions three types of activators can be distinguished

which may for convenience be called motive, incentive and coercion. The true motive gives rise to activities which are pleasurable and necessary. They are ends in themselves, being an expression of the personality and an avenue of self expression. The incentive is the activator giving rise to processes which are not inherently pleasurable, but which subserve some fundamental tendency. Coercion gives rise to activity which is neither an end in itself nor productive of satisfaction, but is merely avoidance of disagreeable consequences.

An illustration or two will perhaps make this distinction clear. A boy of nine needs no incentive or coercion for making a collection. The collecting instinct is rife at that time and almost anything—marbles, cigarette pictures, cigar boxes, or arrow heads will serve as the object. A healthy boy will run and leap without persuasion because physical energy is high, and running and leaping, things he can do. They exercise existing capacities. He does not attempt to fly because he has no mechanism for flying. These activities need no external stimuli; they are truly motivated because they spring from instinctive needs.

The boy with a mechanical bent builds a waterwheel because he has the ability to do it. It is a means of self expression. His father spends Sunday under the car trying to locate the rattle which has developed since the preceding holiday, when he had an equally plausible reason for taking the car apart. Father and son have a turn for mechanics which neither the school nor the legal profession call into play. From Monday to Saturday the father gives his attention to the law business, not so much perhaps because it is all-absorbing, as because it is the necessary concomitant to home, wife and babies, which motivate the practicing of law. The boy spends all his spare time at the brook until the water wheel is finished if he has chosen the job himself, but if he has to make one because mother, who has read child study books too well but not wisely, thinks that in this way her son will become another Edison, Johnny is being coerced and his mood is very like his father's while making out his income tax report.

Probably the greatest artist in motivation on record is Tom Sawyer. There is no doubt that he himself was motivated to develop an interest in whitewashing in others. Equally patent is the skill with which he motivated his friends. Viewed as work, no boy could be bribed to do it; presented as an inestimable privilege,—a treat difficult of attainment, it at once became eminently desirable. Aunt Polly knew how to make a

task distasteful; Tom was a genius—he knew how to make it a delight.

While most adult labors are not ends in themselves but are performed for an ulterior purpose, nevertheless motivated activity is not so rare as might be expected from the generally conceded aversion to work. Given freedom to work out an idea, to carry out a self conceived plan, to create and build for self-selected ends with chosen tools, the activity which follows enlists the capacities of the whole individual, regardless of time, physical expenditure or material reward. Indeed the creative worker is the last to consider the cost—witness the meagre rewards of the inventor and the research worker. To work out his projects is the very condition of his being, and the rapture of creation is his reward.

The ear marks of genuine motivation are spontaneous attention, complete concentration and generosity of effort. The attention span of the child is short, but in limited periods his absorption in his play is such that it shuts out distracting impressions entirely. The uninteresting or undesired occupation demands conditions of quiet which the individual is very likely to forego if he really wants to pursue it.

The motive not only generates energy but causes it to be expended to best advantage. Psycho-analysis has shown that the human soul is made up of warring elements. On the one hand are a multiplicity of aims, desires and values which are peculiar to the individual. These are constantly seeking expression. If their natural appearance is repressed they take on other forms or find outlet in more acceptable substitutions. On the other hand are the bonds and fetters of social convention which the individual dare not break lest social censure be visited upon him. Because of his dual nature, personal desires as such, and his social nature whereby he experiences pain if the herd disapprove, man's activities are not always the resultant of a single motive, but the resultant of opposing forces. When the outer and inner demands are at one, both social and individual needs are working together to achieve them; when they are disparate the available energy is diminished by conflict. Where there is a conflict between necessity and desire, there is disintegrated personality—the person whose attention is scattered because distracted by conflicting stimuli, whose energy is dissipated in regret in chafing over thwarted desire, in discontent. "A double-minded man is unstable in all his ways." When desire and demand are at one, the conflicting forces of personality are unified, and the whole sweeps towards the realization of the complete man in a glorious harmony of instincts, abilities and desires.

Since motivation depends on instinct and the desire for self-realization, it is obvious that motivation changes its character from individual to individual and from age to age. Just as individuals differ in their aptitudes and disabilities, so will their desires differ, so will they seek the realization of themselves through different avenues. Thackeray needed no incentive or coercion to draw and write. He liked to draw and write and did both exceptionally well. Darwin needed no encouragement to study zoology, but he was coerced into studying the classics. James Clerk Maxwell liked to do all these things and did them well. A boy who hates to write compositions on "The Beautiful Snowflake" may write a very good one on "A Snowflake under the Microscope" if his interests are scientific rather than aesthetic.

Differences in instinctive development result in further changes in effective motivation. The medical school student, having envisaged the frightful possibilities of ignorance, will work conscientiously to become a really good doctor, even though the work itself does not fascinate him; the value of motivating accuracy in arithmetic in a boy of ten by telling him he will thus avoid errors ten years later as a bank clerk is highly problematical to say the least. At ten the child is not stimulated by the thought that effort will increase his earnings in the future. By the time a family of his own has become a possibility, a real desire for efficiency exists.

If this theory of motivation be true for the race it is of course applicable to the school. The integrated personality is a prerequisite of the effective use of energy, but integration depends on motivation—and motive is conditioned by individual abilites, interests and instincts. How has the school observed the significance of motivation?

The public supports the school because it thereby heightens its efficiency and saves itself the menace of an illiterate mass. The parent sends his child to school either because he must or because he has experienced or envisaged the advantages of education. Why does the child go to school? Does he go because it is an outlet for his ever outworking activity, a place where he is going to learn things he wants to know, and learn to do things he wants to do? Is it a place where curiosities will be satisfied and desires released or is it a place where he goes because he must? Certainly the graduate from kindergarten trudging to school for the first time is eager to go there. Almost without exception five and six-year-olds express a keen desire to come to school. Part of this desire to come to school is due to the charm of the unfamiliar, but more of it is due to a desire to learn and know, to have a

book, to be able to write and count. Certainly the child comes to school motivated—but does he remain motivated? The elaborate incentives to study, ranging in kind from the silly inconsequential rewards of the lower grades to the marking and rating schemes of the upper grades, are concrete evidence of the fact that somewhere early in the process motive has been lost. The reason for this seems to lie in the utter disparity of the goals of the child and of the school. The young child comes to school with a strong desire to do and to learn. He is easily stimulated; curiosity and emulation lead him on. Permit him to go at his own speed, and choose his own work (quite within the limits of the curriculum however), and he will progress without urging of any kind, merely by the stimulus of his own success and the joy of using his talents. This has proven to be the case where children have been placed on a self-reliant basis from the beginning in an environment where the desirability of school studies is taken for granted. Unfortunately, however, such a system is a chimera of the imagination to all but the few who have demonstrated its feasibility. Ordinarily, the child follows a rigid program; he must wait for the slow ones or hectically keep pace with those above him. He has neither freedom of choice nor freedom to develop according to his endowment. He is taught by a teacher who perhaps thinks that because a subject is uninteresting to her it is also uninteresting to the child. She therefore hedges him about by restrictions and commands, thus suggesting that the work is disagreeable and the possibility of his not doing it. The child's enthusiasm expires in such an atmosphere of bondage.

By the time the child has acquired the simple tools of knowledge and his enthusiasm for these has waned he has developed certain interests which become the dominant motif of his development. Certain aptitudes peculiar to the individual, certain emotional complexes resulting in various psychic needs have appeared. The differences which were not so marked while all the children were acquiring the tools and means of expression, stand out clearly when the time comes to put these acquisitions to use. The child has sensed possibilities and activities which he did not perhaps know existed before. This one has dipped into zoology, another into literature, a third into physics or mechanics. This has created new desires. The child has perhaps determined on his future vocation. This will perhaps change but it is very real and enduring and vital to him at the present moment. His interests are directed into channels related to this aim. He rejects those which do not touch it. In illustration of this the case

of a boy who was making almost no progress in history may be cited. His mental endowment was high and well rounded. Hence his deficiency did not rest on a specific disability. The boy intended to become a mechanic. He was particularly interested in automobile engines. When urged to try to master his history, he replied that 'he didn't see what good it would do anyhow. He didn't need to know about Castor and Pollux and Caesar's conquest of Britain to be what he was going to be.' A boy cannot be expected to perceive that though such information is not useful in earning a livelihood, contact with the past enhances and enriches life. If this boy had had a real aptitude for history this situation would not have arisen. If it had been made interesting in itself and its possibilities opened to him he would not have rebelled. As it was it was neither an end in itself nor a means to an end—he had no good reason for mastering it.

By the time the third or fourth grade has been reached rigid disciplining becomes necessary. Policing both in conduct and work prevails. As a young teacher recently expressed it, "You have to discipline them before you can teach them anything, and after you have taught them you've got to make 'em remember." Some few there are, and these are largely girls, who genuinely like school; the others tolerate it or actively dislike it. A recent inquiry among one hundred high school graduates revealed the fact that only three had enjoyed their elementary schooling. The remainder had accepted it as a necessary condition of their lives. With what glee do grown men relate the escapades of their school days, how they circumvented this teacher, how they annoyed another, how they disregarded regulations and evaded tasks. The school at best was merely a means to an end—if not only a mode of occupying the time until maturity was reached.

The school has failed to enlist the self-activity of the child, because it has disregarded tendencies which predispose the child to accept or reject what is offered. Curriculum and method are arranged in a logical rather than a psychological sequence. One illustration will suffice. Gardening is hailed with delight by boys primitively disposed to dig and plant. Comes a logical agricultural school product and damps their ardor with the question: "What is soil?" Does the golfer try to fire his non-golfing friend with enthusiasm by asking him to define a parabola? No, he leads him gently on the green, places the appropriate stick in his hands and in the vernacular, lets him "go to it." Maybe some time long afterwards the novice, now no longer a novice will reflect on a certain shot and wonder why it described the figure it did. It has an

interest for him now, but as a propaedeutic to golf it was useless. The boy is interested primarily in gardening, but in soil only as a knowledge of its properties increases his chances of a record crop. Soil may be at the root of gardening in more ways than one, but he is not interested in the root as such; he is interested in vegetables. If the logical beginning is not the psychological one the child will not only lose interest in gardening but will fail to get even the facts of soil, since they are of no interest in themselves.

A similar disregard of psychological factors exists in the high school. The adolescent is often offered work which has no connection with his dominant interests. Adolescence is a time of seething emotions, of storm and stress. The mind is occupied with concrete social and ethical questions. The old philosophical problems of being and becoming engage his mind but are so richly colored by the reflections from his personality and by instincts which are lush at this time, that they are so much a matter of individual concern and are unrecognizable as academic problems. Creed, duty and life work are engaging his attention. Sociology and eugenics, biology and the origin and development of life, anything which touches on the vital ideas whose existence he is just beginning to appreciate are welcome. The individual is never so generic, so receptive to the moral and spiritual in his racial heritage as at this time. How can a mind thus engaged be expected to interest itself in the cold didactics of Ruskin, or the classic incomprehensibility of Milton, unless as is rarely the case, it be taught by an impassioned man or woman who has felt the perpetual adolescence of the poet and *can convey* it to the student. In his period of greatest storm and stress the school invites the adolescent's attention to Cicero's remarks on old age, if not indeed merely to the vagaries of the ablative absolute, and the valuable distinction between gerund and gerundive. "Consider the triangle," says the mathematician; "consider the figure of speech," says the rhetorician; "consider the irregular verb," says the French instructor, and, "the prepositions governing the dative," says the German. Verily they ask for bread and we give them stones.

Of course, the justification offered is that these stones are the material for a noble edifice—a fully developed, highly trained mind. Again the fallacy of education logically rather than psychologically is apparent. It is a truism that ideas which are not frequently recalled tend to disappear. However, if in the first place, these ideas were not linked with numerous associations they are likely to be consigned to oblivion. On the mere ground of retention interest and self-

activity are necessary. Unless an idea carries an interest and has value and significance in the individual's life, it is not only likely never to be used, but it will not even be available, because it is not moored in the psyche by all the associations formed by reflection, comparison, acceptance or rejection. If the idea has no place in the individual's mental life he will be either passive or resistive—in either case the idea fails to function. The beautiful edifice is in danger of becoming an attic of oblivion.

An even more positive harm than this is done by prevailing methods. The disinclination for intellectual pursuits, the entire sloughing off of attitudes outside of school which the school tries to establish, demonstrates very clearly that for many, school activities and standards have been invested with a painful or disagreeable emotional coloring. The natural consequence of coercion is rebellion. It is not uncommon to hear a normal school graduate say she has not read a book since she left school. One declared that she had been so surfeited in normal school that she had promised herself she would not open a book for five years. Instead of imbuing its charges with a taste for learning it seems to develop a violent distaste for it.

The thwarting of desire and the constant interruption of self-selected activity hinders the development of permanent interests and habits of application which are essential to real achievement. The child who is not motivated may acquire a rudimentary education, but he has also learned to be satisfied with an occupation which does not enlist all his powers, rather than look upon his work as a source of satisfaction in itself and not merely a means to an end. The world is full of drifters, men and women with vague longings to do and to be, but without clearly defined proclivities, curiosities or avocations. They are far less effective than they might be, for their energies are not focussed. The life in which aptitude, feeling and interest are centered upon one objective is the effective one; there is no conflict; the whole personality is integrated for the consummation of one aim. To foster such personalities is clearly a function of the school. The development of such personalities will involve far-reaching changes in both the subjects taught and the methods by which education is administered, but the desirability of such individuals as individuals and as members of the community is certainly well worth whatever pangs of regeneration such education may cost the educators and the educational system.

THE SUBLIMATION OF NON-SEXUAL INSTINCTS

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In the midst of certain extreme and even fantastic doctrines that Freudian psychology has been responsible for, there stand several contributions of unquestioned value. Prominent among the valuable contributions is the theory of sublimation. The sublimation of an instinct is the process whereby a new and better object is substituted for the natural or orginal object of the instinct. When an instinct is sublimated, its expression is elevated to a higher form, morally superior to the unsublimated form of expression, and consequently more acceptable socially. Dr. G. Stanley Hall has suggested (in the *American Journal of Psychology,* Vol. 26, 1915, pp. 438-443) that Freudian methods might well be applied to other instincts than the sex instinct, to which Freud has limited his attention; and Dr. Hall has proceeded by an excellent discussion, in Freudian terms, of the instinct of anger, or pugnacity. I propose to apply the single Freudian notion of sublimation to still other instincts that are nearly or quite as fundamental as sex or anger, and to show the extent to which moral education involves the sublimation of these instincts.

Such studies of the instincts as have been made by James, McDougall, Thorndike, and numerous others, have shown the incorrectness of Freud's pansexualism. Sex is, indeed, an important instinct, deep-seated biologically since, without it, the race would not have been able to perpetuate itself. In a sense the food and the sex instincts are more fundamental than the others; but individuals and species, human or prehuman, that lacked such instincts as anger, self-assertion, and fear would not have survived long in the struggle for existence. As a matter of scientific fact there is no normal human being who is without several irreducible instincts, which serve, directly or indirectly, as the basic motivating forces in his life. The instincts are the mainspring of all human activity, without which no effort and no accomplishment would be possible.

Since the instincts exist as one outcome of the biological struggle for existence, their original usefulness is thereby demonstrated. Why, then, it might be asked, should there be any need of restriction of their natural expression? The answer is obvious. Instincts which were bred in the jungle and which were useful and necessary under the conditions of

jungle life, still persist practically unaltered in human nature, while the conditions of civilized life inevitably impose numerous checks and restraints. Education consists primarily in a redirection of primitive instincts into socially acceptable channels. Thus, for example, the child, with its food instinct, has to be taught table manners, or conventional restraints upon the direct snatching of food. There are few, if any, instincts which do not require a somewhat similar training.

One fact that the Freudians have pointed out with regard to the sex instinct, namely, that an attempt at complete suppression or blocking of its expression is always disastrous, holds true equally of the other instincts. The instincts may be checked to some extent, but none of the fundamental ones will wane and disappear completely as a result of disuse. They are like a river, flowing irresistibly. If the natural channel of a river is closed by means of a dam, the water simply flows over the dam, or around it in some new channel. By the construction of a dam, the water of a river may be elevated to a higher channel; and, similarly, if the natural outlet of an instinct is closed, a new and possibly higher form of expression may be produced. Illustrations of this process of sublimation in the case of the sex instinct have become familiar to all readers of Freudian literature. Sex-sublimation is illustrated, for example, by the youth who, at the beginning of adolescence, passes through a religious conversion and thenceforth devotes his life to the pursuit of high moral and religious ideals, or by the person who becomes wedded to a "cause" or to his profession, to the exclusion of more obvious matrimonial alliances. Moral standards in any self-respecting society always have required, and always will require, a severe inhibiting of the natural expression of the sex instinct; but to the redirecting of sexual motivating power into higher channels "we are probably indebted," as Freud says (*Über Psychoanalyse,* p. 61), "for the highest cultural attainments."

Dr. Hall has shown (*loc. cit.*) how anger is frequently sublimated in the form of rivalry in the class-room, competition in the work of the world, etc. He has failed to mention, however, what would seem to be one of the best examples of the sublimation of anger, namely, what is called righteous indignation. The motivating force in the case of righteous indignation is clearly the instinct of pugnacity, but the expression of the instinct is elevated into a form which is wholly good. The individual who feels intense anger at social injustice, preventable vice, and the like, and who puts himself into the fight to eliminate such conditions, is turning to the best of uses an instinct which in its primitive and unsublimated form leads

only to the smashing of people's noses and to the waging of war on enemy nations. William James in his proposed "moral equivalent of war" was speaking of precisely this question—the sublimation of pugnacity. Just as the maintenance of acceptable standards of personal morality depends, first of all, upon the success with which the sex instinct is sublimated, so the maintenance of a stable social order and of peace between nations is conditioned to a large extent by the success which attends the sublimation of the fighting instinct.

Closely connected with the instinct of pugnacity is that of self-assertion. Self-assertion, accompanied by the emotion of elation or pride, has been classified by McDougall (*Social Psyhology,* pp. 62 ff.) as one of the seven primary instincts. Though very general, expressing itself in a wide variety of situations, this is still an easily recognized and an important instinct. The individual instinctvely seeks approbation through excelling others in some respect. The most natural expression of self-assertion is in the form of physical prowess, where it shows its similarity to the fighting instinct and also its frequent association with the sex instinct. Self-assertion manifests itself most literally in such a situation as that in which one vanquishes a rival and thereby gains the favor of one's admiring lady-love; but it appears in many other forms. The college student, for example, most readily seeks social approbation through achievement on the athletic field or in some other conspicuous college activity. Failing in such directions he may "go in for" grades and may assert himself in scholarship, seeking thereby the approbation of his instructors and of such of his fellow-students as may admire intellectual success. The average college man is content to "make" his "letter" in athletics, *or,* failing to do this, to "make" Phi Beta Kappa. The average man cannot be a conspicuous success in more than a limited number of directions. Similarly the school or college girl may satisfy her instinct of self-assertion through becoming a "social success," making "conquests," and the like, while if such forms of expression are blocked for any reason, she, also, like the unsuccessful athlete among the men, may attempt to assert herself conspicuously in the class-room. Self-assertion, being so closely akin to the fighting instinct, requires inhibition and sublimation. The individual naturally tends to assert himself in selfish and in merely physical ways; but the instinct may be sublimated into intellectual, artistic, and religious channels and into forms of unselfish service. The best example of sublimation of this instinct is in the case of the individual who has learned to take greatest delight in asserting himself in unselfish ways, serving the community

or humanity instead of merely his own personal, material ends. Jung, unlike Freud, has emphasized the instinct of self-assertion.

Fear is an instinct which has been of the highest service in the past. Individual and racial survival have often depended upon it. The natural objects of the instinct have been, in the main, dangerous or harmful objects or situations. Many persons at the present time grow up in so sheltered an environment that fear has little opportunity to express itself in its original form, that of escape from danger. The instinct, however, is lacking in no one, and it may be sublimated and made the source of much that is good in life. It is commendable to fear, and to avoid as one would avoid a dangerous enemy, such conditions as preventable disease, vice, dishonor, etc. An interesting form of sublimation occurs when cowardice becomes the object of the instinct. One may fear cowardice more than one fears the enemy, and consequently not dare to run away.

Curiosity, when allowed free expression, sometimes leads to bad results, and moral education requires a checking of some of its manifestations. Much, however, which is the very best that civilization has produced has been the outcome of this instinct in sublimated form. I refer especially to intellectual curiosity, which has led to many of the highest achievements in science, and to religious wonder, which has played a part in the development of the more refined forms of religion.

The sublimation of instinct may be illustrated, though rather imperfectly, perhaps, by reference to the most vital of all the instincts, that is, the food instinct. This instinct is slightly more fundamental than the sex instinct from the biological point of view since, without it, the individual would perish immediately; while the disappearance of the sex instinct, were this possible, would not lead to the immediate destruction of individuals, but only of the race in the course of a generation. Sublimation of the food instinct may occur in some degree, as when the epicure, who lives primarily to eat, may come to put other objects in life above the pleasures of the palate, and thenceforth may eat to live, remaining no longer an epicure. In at least a figurative sense, also, we may speak of "hunger and thirst after righteousness" or after wisdom as a case of sublimation of the food instinct.

Man cannot live without the primitive instincts, which he inherits from an immemorial past; neither can he live a moral life in modern cultured society with them in their original form of manifestation. They may all be sublimated, however, to some extent, thereby becoming the source of much

that is good in modern life. The development of a moral character depends largely upon the success with which the sublimation process is accomplished. The Freudians have called attention to an important factor in moral training, but the notion of sublimation is not limited to the sex instinct, being equally applicable to the other important instincts.

AN ADOLESCENT GENIUS

By E. Leigh Mudge

Marie Bashkirtseff has been called by Maurice Barrès "Our Lady Never Satisfied." A divine discontent is characteristic of the genius and also of the adolescent; and this young artist was both. In her journal we have a remarkable record of self-confessions, beginning at the age of twelve, at the very outset of the adolescent period, and continuing until a few days before her death at twenty-three, when adolescence is gradually merging into adulthood. To say that Marie Bashkirtseff was precociously mature need not be interpreted to mean that she had no youth. Her life was *all* youth, crowded with experiences, endowed with unusual intellectual power, force of will and potency of feeling, but youthful through and through. Some have said that she did not develop and mature; that the artist of twenty-three is the same erratic and temperamental child as the schoolgirl of twelve. This is surely a misconception. She matured as an adolescent matures. She did not live to attain adulthood; perhaps had she lived she would have preserved the youth-spirit through other years; but there was a many-sided development that made her the promising young artist she was toward the end of her short life.

Many who read the journal of Marie Bashkirtseff will consider it the record of a morbid and abnormal mind. Unusual it certainly was,—the mind of a genius, a highly temperamental young woman,—but may not its abnormality consist in its being so clearly revealed to the world? Other girls have similar emotions and ambitions and ideas, but they have repressed them conventionally and grown away from them into the saner development of middle age. Doubtless the characteristics of adolescence are exaggerated in the young artist, as in any other unusually vivid and vigorous personality. It is this exaggeration of adolescent traits that makes her journal of high value to students of psychology. Just as any human tendency may be more clearly examined in its most highly developed form, so the feelings which are usually hidden in the reticent adolescent heart may be clearly seen in the open magnification of this unusual personality.

Marie Bashkirtseff is, like all young people, distinctly and often painfully self-conscious. She seems to be constantly

thinking of herself, her abilities, her personal appearance, her feelings. She is childishly pleased, even within the last fortnight of her life, with her clothes and her face. In the earlier years of the journal she frequently makes such confessions as, "I love to be alone before a looking glass." "My photographs are never like me." "I compare myself with all the statues I see." In her twentieth year she made the following entry:

Since yesterday my complexion has been wonderfully fresh and clear and beautiful, and my eyes brilliant and animated. Even the contour of my face is more delicate and more perfect than before. Only it is a pity that this is at a time when there is no one to see me. It is a silly thing to say, but I remained standing for half-an-hour before the glass for the pleasure of looking at myself; it is a long time since this has happened.

Many an adolescent girl fancies herself a genius. Marie knew herself a genius and devoted herself zealously to doing the things for which she felt the ability. "I long to go into society," she writes. "I long to shine. I long for high rank, for riches, pictures, palaces, jewels. I long to be the center of a brilliant circle." "I desire glory." "I am resolved on being famous whether it be as an artist or in any other way." "I long to see everything, to know everything, to learn everything."

A tumult of varying emotions is expressed throughout the journal, doubtless a very original and individual torrent, but perhaps not altogether unlike the experience of other girls in this introspective age. Mlle. Bashkirtseff is continually examining herself, often in a curiously objective and disinterested manner.

The woman who writes these words and the woman she is writing about are two different persons. What do all these sufferings matter to *me*? I write them down; I analyze them; I transcribe my daily life but to *me*, to *me myself*, all that is completely indifferent. It is my pride, my self-love, my interests, my complexion, my eyes that suffer, that weep, that rejoice; but *I*, I take part in it all only to observe, to narrate, to write about and reason coldly concerning all these trifles, like Gulliver among the Lilliputians.

At other times, she writes: "I like to sob and despair, to indulge myself in sadness. It is a form of diversion." "However much I may cry and fall into a rage, I am always conscious of what I do." "I suffer genuinely, but something deep within me remains calm and observant. I watch myself and am interested. I never entirely forget." This apparent paradox of actual emotion under one's own dramatic scrutiny is typical of adolescence, and so is the ability to hide one's feelings under a mask, as when Marie says: "it is my nature

to laugh; it is sometimes altogether independent of the humor I am in."

Her first love affairs are typical of early adolescence. She falls in love with an English duke whom she has never met, and believes herself heartbroken when she hears of his marriage, while she is yet in her thirteenth year. Later she fascinates an Italian youth and so far yields to his love-making as to give him a single kiss, for which she long continues to reproach herself. It is only near the end of life that a normal love experience begins to emerge, and even this she does not seem to recognize for what it is, although she reminds herself of a possible danger to her self-ambitious principles.

> I am vexed to think I should have let my thoughts dwell upon him personally—he is not sufficiently great for that. He is not a demi-god in art, like Wagner, and it is only in such a case that it would be admissible to entertain a profound admiration for him.

Indeed she gives her growing interest in Bastien-Lepage, whose life ended within a few weeks of her own, a mystical interpretation as well as the more obvious interest in a fellow-craftsman. She describes the mystery in the eyes of his Jeanne d'Arc, and says of the painter that he has looked into the eyes of the Maid.

Many typical adolescent traits were magnified in this remarkable girl. She was ambitious, self-assertive, high-spirited, finicky in tastes, often restless and irritable, intellectually critical and still highly suggestible. She justly felt, as most young people do, that her friends did not understand her. Indeed she does not understand herself. She has the typical dream life and vivid imagination of adolescence, together with unusual power to make her dreams concrete and clear both to herself and to others. She manifests the curiously mature attitude which is often seen in young people. Even at the age of twelve, she makes such sage remarks as: "The expectation of an unpleasantness is more terrible than the thing itself." "I have a horror of trivial, every day annoyances, so I let them pass with a smile." "Work is the cure of everything. How can the hand be busy and the mind idle?" "True wisdom can be learned only from personal experience."

What have been termed "contradictory characters" are characteristic of all vigorous personalities, and especially of those who may be called geniuses, and also appear normally in adolescence. In many respects the nature of Marie Bashkirtseff was of this paradoxical sort. She is deeply religious and also highly superstitious, and still she is cynical, skeptical, and intellectualistic. Her mother's veneration of images is foolishness to her, but a broken mirror is an omen of misfortune, and a strong current of mysticism runs through her

entire life. Early in her fourteenth year she already considers herself quite *blasé* and is developing the attitude of introspection and dramatic objectiveness already mentioned. "I compare myself to a piece of water that is frozen in its depths, and has motion only on the surface, for nothing amuses or interests me in my DEPTHS." But within a few days she is in raptures over the recovery of her voice, which is at this time her artistic hope. "I receive it with tears in my eyes, and I thank God for it on my knees. I said nothing, but I was cruelly grieved. I did not dare to speak of it. I prayed to God, and He has heard me!"

Moods of gaiety and hopefulness are closely followed by periods of melancholy and despair. To be sure, the progress of disease may account for some degree of this in her later years, but she has the true adolescent shifting of moods. At fifteen she utters this melancholy wail, which seems almost too self-conscious to be convincing:

> "Just now I fell on my knees, sobbing, and praying to God with outstretched arms, and eyes fixed straight before me, just as if He were there in my room. It appears that God does not hear me. Yet I cry to Him loudly enough.
>
> Shall I ever find a dog on the streets, famished, and beaten by boys; a horse that drags behind him from morning till night a load beyond his strength; a miller's ass, a church mouse, a professor of mathematics without pupils, an unfrocked priest, a—poor devil of any kind sufficiently crushed, sufficiently miserable, sufficiently sorrowful, sufficiently humiliated, sufficiently depressed, to be compared to me? The most dreadful thing with me is that humiliations, when they are past, do not glide from my heart, but leave their hideous traces."

A few days later she is saying: "I don't know what to do with myself for joy."

Many times, in the frankness of her journal, Mlle. Bashkirtseff commends herself, her appearance, her ability, her motives, her character. In spirit as well as in attitude she is a coquette. She is no shrinking wall-flower. She has endless confidence in herself. But this trait also has its foil, and again and again she is as self-condemnatory as the ascetic saints. At one time she writes of a voice that often whispers to her that she will achieve success: "I believe this voice. It has never yet deceived me, and it has too often predicted misfortune for it to speak falsely this time." Yet in a few days she says: "My projects, my hopes, my little vanities are fallen to pieces. I have deceived myself in everything." She is both a coquette and severely moral, and she continues for a long time her self-castigation for the kiss given her ardent Italian lover. Her frequent fits of melancholy, and sometimes of violent passion at her failures and misfortunes, are doubt-

less exaggerated by ill health, but still they are typically adolescent phenomena, and so are the wistful ambitions, the impulsively extravagant emotions, the shifting likes and dislikes, and the passionate idealism which are revealed throughout her journal.

Marie Bashkirtseff did not live long enough to attain the full fruitage of her artistic ambitions. She accomplished some work that was worthy; perhaps, had she lived, she might have produced something really great. But her greatest service to the world is not as a painter. In her journal she has rendered a distinguished service not only to our knowledge of an artistic temperament but to our knowledge of the spirit of youth. In giving the world her faithful transcription of her intimate life experiences, she has painted a masterpiece. What the world lost by her early death we do not know, but by leaving this remarkable record she has attained a worthy place in the world's memory. Marie Bashkirtseff is eternally young.

BRINGING DEAD MINDS TO LIFE

By Mary Lena Wilson

Training in educational psychology is much needed by the American welfare workers who have gone out to Armenia. Particularly are those who have charge of orphanages called upon to face problems which only a knowledge of this subject can help them in solving.

Of the fifty-nine thousand orphans who are being housed and fed and educated by the Near East Relief (America's official organization for carrying on in Armenia) most of them, at the time of their introduction into the American orphanages, had forgotten the names of their mothers, their homes and even their native language. All of them had been so dazed by suffering and neglect that their minds were stunted and benumbed and they were incapable of grasping the simplest facts.

To bring these children back to normality has been the task of the American welfare workers. It has required tact and patience and no small amount of skill.

The first step, and perhaps the most difficult, was to weed out the Armenian from the Turkish children in the Turkish homes and orphanages where they were being held. As the boys and girls of both nationalities looked exactly alike and both spoke the same language, and as the Turks would, of course, give no assistance in the matter of identification, the entire responsibility for the rescue of the Armenian prisoners, rested with the children themselves. If they could not be brought to acknowledge their identity, it was impossible for the American and British officials to remove them from their Turkish homes.

With the children who had really forgotten their early years in their Armenian homes, the methods employed were very simple. Certain objects peculiar to Armenian households were placed before the class room. Armenian words, names of towns and national surnames were repeated over and over. The little Turkish children would, of course, sit silent and unmoved through these performances. It awakened no memories, no associations in their minds. But very frequently a little dark-eyed boy or girl would give a startled exclamation and point in bewildered fashion to the bowl or utensil the relief worker was holding in her hand, or cry out at the

mention of an old Armenian name. The child might not be able to explain to himself why he had been aroused, but his response to the stimulus would be proof that it had stirred some chord of memory which led back to his Armenian past.

With this as a clue, the relief workers would lead the child on by speaking to him slowly in his native language, repeating over and over long lists of Armenian names, and finally—and this the most effective means of all—crooning to him some familiar old Armenian lullaby.

Gradually the dull face would brighten up. Stammeringly and almost fearfully he would say over the Armenian words for mother and sister, would give some disturbed, disconnected account of the memories which these words roused in his mind. Often he would be able to give some confused story of what had happened to him.

As in the majority of cases some history of the children sought for was in the hands of the relief workers, it was easy from these accounts to piece together the story and to sufficiently identify the child in question to take him from his house of bondage to the safe haven of the American orphanage.

But the cases which were the most difficult, and all too numerous, were those where the boys and girls did remember their past—did know that they were Armenians but were in such deadly fear of their Turkish masters that they would not admit to their nationality. They knew all too well the fate that had befallen their fathers and mothers and older brothers and sisters just because they were Armenians. Every day brought its painful reminder of what they themselves were suffering for no other reason than that they were "Christian infidels." If these warnings had not been sufficient there was the continually repeated threat of their masters, "No one looks for an Armenian but to kill him. You are a Turk, as you value your life."

These pitiful little children would sit white-faced and staring while the Americans questioned and cajoled, coaxed and pleaded. Like the guilty prisoner at the bar they kept their frightened eyes fixed on space, never daring by look or gesture betray their feelings.

And then a sob, a childish, broken-hearted cry would break the stillness. At the mention of a mother's name, or the singing of an old Armenian cradle song, some little fellow's strained nerves would give way and he would burst into tears, confessing his nationality and begging pitifully for mercy.

It is hard for these poor little creatures to believe that the Americans have really come with kindly intent. They have been so used to mistreatment and cruelty that it takes some time for them to respond to the advance of their American benefactors, even after they have been taken into the orphanages. They are silent and constrained, suspicious of everything. But this is only at first.

Of the more than fifty thousand children now entirely under American care, practically all have been brought back to a normal state or are on the way to recovery. While few of those under fourteen can read or write their own language on entering the school, they show remarkable adaptability and speed once their fear has been removed. They love their lessons and their progress is really remarkable.

But there are still many thousands of Armenian boys and girls held captive in Turkish harems and in their ill-kept orphanages. Time and again the British officers together with the American relief workers have gone to these places to claim the children they feel sure are there only to go away disappointed because no proof of their identity can be established.

Yet they are not discouraged. In the last year a number of college men and women who have taken psychological and psychiatric training have gone over and through their efforts it is hoped and expected that the children still in captivity may be rescued and that those in our homes may be speeded on the way toward complete mental recovery.

WOULD YOU TRUST HIM?

By Julie Caroline O'Hara

We are told that Diogenes lighted his lantern to find an honest man. Were that austere Greek to come to Cincinnati he would find an honest youth without any illumination whatever. The following incident occurred in one of our large high schools having about two thousand pupils.

One of the teachers had a beautiful large calendar given to her. On it was an artistically colored picture of President Wilson at the Peace Conference at Versailles, seated at a table surrounded by many interesting figures. The President sits there in a dignified attitude and one can recognize in him the greatest man of his age. This teacher prized her calendar very dearly, being an ardent admirer of the President and an enthusiastic supporter of the "League of Nations."

With the aid of the janitor—called "Dick," and a prince of janitors—the calendar was hung in a good place where it could be seen, but in a position where there was only a narrow passage-way between it and the school furniture. The room in which it hung was a very large one and was used as a study-hall. The teacher left it to go to her recitation-room early in the day.

When she returned to the big room at the close of the day, great was her dismay to find her beloved calendar torn in such a jagged way that it was utterly ruined.

The teacher was "to be about to be" very angry. Her first thought was that it had been done by an enemy of President Wilson and the League. When her indignation was just about to boil over, she picked up a little piece of paper with her name upon it, lying on her table. She opened it and on it in an immature hand was written the following note, which is given verbatim.

Miss ————:

As I was passing your calendar today it caught on my coat and tore. I am very sorry this happened, and I will write to the company for a new one. If you wish to see me my home room is 308a.

——— ———.

(And his full name is signed.)

The teacher—being very, very human—was much touched, and felt not one trace of anger or regret for her lost calendar. It was so supremely honest in the boy to confess, for never in the world could she have found out who did it. He was a little D Grade—that is the lowest one in the four years of high school—boy, and she had never even seen him to know him.

The lad was probably unconscious that he had done so praiseworthy an act, and as teachers or as social workers, we do wonder whether the act was due to the innate goodness of the boy's character, or his home training by a noble mother; or was it just the plain Golden Rule that dominated him. We would like to know what produces this kind of boy; then, when we have the formula, it might help us to bring about more boys like him.

The teacher told the incident to the girls in her home room, in the B Grade, without giving any name. It was more of a lesson to them than a sermon. They were hushed in their admiration of this honorable act in a little boy; and when their teacher asked them—"Would you trust that boy?", they could not answer, but only shook their heads.

BOOK REVIEWS

Erlebtes und Erkanntes. By WILHELM WUNDT. Stuttgart, Kroner, 1920. 399 p.

The preface of this autobiography, which has been published since the writer's death, is dated August 20, 1920. Wundt here makes his last bequest to the learned world in the form of a very frank and detailed account of his parents, boyhood, the social life of Baden, his schooling, friends, teachers that most influenced him, university studies and associates, his final decision to be a physiologist, experiences as assistant to Helmholtz, life and culture in Heidelberg, Zurich, and Leipzig, and finally gives us his reactions to the great war and ends with a very optimistic prophecy as to the future of German *Kultur.* In this book will be found nothing less than a brief epitome and genesis of about all the author's publications, so that probably its chief function will be as an introduction to the study of his life and particularly his works. He gives us with the utmost frankness his opinion of scores of savants with whom he has come in contact, sketches briefly the condition and history of socialism, the workmen's movements, the religious life of Germany from Luther to Schleiermacher and to the present, resumes his interest in the study of muscle physiology, the senses, apperception, his conclusions concerning myth, custom, belief, and every other important topic which he has treated. He tells us of Bebel, the revolution of 1848, that of Baden in 1866, the effects of Königs-grätz, touches the Jewish problem, criticizes the *gymnasium,* tells us of Johannes Müller, Fechner, the condition of medical studies, the significance of the kymograph, his studies of death and immortality, his theory of art, his association with Zeller, Kuno Fischer, Weber, etc. In fact, we have here a pretty full and complete summary of all his own multifarious interests so that the book as a whole makes a remarkable summary and content of an exceptionally long, active, and productive life. Particularly interesting are his discussions of culture problems, the development of his logical and his religious concepts, etc. While he was profoundly influenced by Bentham and the English Associationists, Darwin and evolutionism found little entrance into his system, and even his attitude toward Herbert Spencer is prevailingly negative. The thoughtful reader on closing this book will miss the author's general summary and judgment about his life, which suggests so many generalizations that would make the data he gives us here such suggestive material for the application not so specifically of psychoanalytic mechanisms as of a general induction as to the causes of the development and sequence of the many different interests. He would have us believe they developed very largely from preceding studies and that the second influence was environment, and he has almost nothing to say of inherent zests and innate appetencies.

Das Denken und die Phantasie. By R. MÜLLER-FREIENFELS. Leipzig, J. Barth, 1916. 341 p.

The author here gives us a very interesting and important treatise, practically finished before the war but only just published, in which he sets forth what may be called the newer and more advanced views concerning thought and phantasy which have been evolved out of the

older associationism in which he himself was reared but which he here condemns. He is not content to call either ideas or phantasies reproductions of sensation but stresses the conative and still more the effective impulsions behind which enter so largely into their composition. He is not satisfied with Wundt's theory of apperception, nor even with pragmatism, because he finds back of ideation and imagination an *Einstellung* or attitude, and more specifically a directive trend which cannot be explained by the laws of reproduction or association. The author is one of the most thoughtful and scholarly of those psychologists who are inspired by Freud. Although we have in this volume little that is specifically psychoanalytic, he does stress the primacy of the affective and efferent impulses over those which are noetic or imaginative.

Geschichte des Seelenbegriffes und der Seelenlokalisation. By B. Révész. Stuttgart, F. Enke, 1917. 310 p.

The author at the outset definitely limits himself to the two problems of the idea (*Begriff*) and the localization of the soul, excluding all the many other problems that have arisen concerning it. He also excludes Oriental views because they are too permeated by mystic and religious concepts. He finds the views he compiles so extremely disparate that it is impossible for him to draw any general conclusions from his data. The work is divided into three parts, treating, respectively, Antiquity, the Middle Ages, and Modern Times since the Renaissance. First he considers English thinkers down to Hume, then German thought, classifying various tendencies as idealistic, rationalistic, positivistic, materialistic, energetic, and physiological, and dealing with a number of representative thinkers down to and including Wundt.

Probleme der Mystik und Ihrer Symbolik. H. Silberer. Wien, H. Heller, 1914. 283 p.

Here again, as in his great work on symbolism, the author takes his text from an old Rosenkreuzian manuscript on the parabola, and on the basis of its exegesis gives us a restatement of his views on the meaning of dreams and *Märchen,* and then attempts a specific psychoanalytic interpretation of his text, discussing more fully alchemy, the hermetic art, Rosenkreuzianism, free masonry, introversion and rebirth, mysticism, and the royal art.

Ueber Gedächtnisbildung. By H. E. Jost. Berlin. 80 p.

This author has spent many years in teaching mnemonics and gives us here the essence of his method and the substance of his studies and conclusions. He starts by reminding us of Kant's well-known dictum that in intense mental work the head is held still, and proceeds to discuss the various items that enter into mental work generally, and specifically that of memorizing. He recognizes that there is a varying function of the eye, ear, and motor elements, and gives exercises to sharpen each of the higher senses so that observation may be more rapid, intense, and discriminative. He has no use for mnemotechnic systems but insists that by simple practice of concentration and intensification very marked results may be obtained. His work is practical and interesting, although he does not appear to have any knowledge of the voluminous psychological investigations of memory, which would have added greatly to its effectiveness.

Humor als Lebensgefühl. (Fr. the Danish of H. Goebel.) By H. Höffding. Leipzig, B. G. Teubner, 1918. 205 p.

This treatise is in Höffding's best style, and in it, perhaps better than any other of his writings, we can really see the man. He conceives humor not as chiefly comic but as a unique combination of the serious and sportive views of life which is one of the very most characteristic reactions of man to his world. True, it often comes, as in the humor of the war, as a reaction to tragedy, but it really represents the truth only half confident of itself but nevertheless pushing forward to self-expression as if underneath it all lay a deeper sense that all that humanity has striven for is, in some respects, tentative and uncertain. One of its traits is the combination of opposites—truth and error, fun and seriousness; and to be able to indulge in it in the great crises of life is one of the very most royal prerogatives of man in which, although uncertain of his place in Nature and of his fate, he indulges in some measure of abandon. No one can read these pages without realizing that the author has not only an unusually profound sense of humor himself but that he has really made a new contribution to this most baffling of the things of aesthetics, not to say of psychology itself, for, like Kerkegaard, he finds an element of it even in the most solemn mysteries of religion.

Seelenmechanik und Hysterie. By Wilhelm Neutra. Leipzig, Vogel, 1920. 521 p.

This author makes his bold debut into the vexed field of hysteria with very definite philosophic assumptions: first, that psychology in general is a daughter, though often disowned, of biology, the legitimacy of physiology as an older child never having been challenged. He insists that we must treat everything from the energetic standpoint and dispense once and for all with every kind of dual housekeeping. He deplores that the very nomenclature of psychology shows how little it has been able to escape from metaphysical hypotheses. His method of approach is so radical that he seems to believe that it offers us a profounder solution than the Freudians—whom he rather slights —have found. In none of the phenomena of hysteria do we escape the general law of causation, and if his monism is not materialistic, because he accepts a kind of parallelism where he must, he nevertheless, although he does not escape the charge of being somewhat extremely doctrinaire, brings many fresh and stimulating points of view.

He abridges cases because he believes most of his readers have a sufficient repertory of them at their command to judge the truth or falsity of his views. He writes in the strongest sympathy with the view that native insight, intuitive power, the wholesome common sense fortified and enriched by long experience of the older writers in this field, must by no means be lost sight of, because in hysteria more than anywhere else this alone can supply the norm. His book certainly has the quality of freshness and originality and cannot fail to stimulate thought although it will provoke vigorous reactions.

Experimentelle Massenpsychologie. By Walther Moede. Leipzig, Herzel, 1920. 239 p.

This docent at the technical high-school of Charlottenburg tells us at the outset that in place of Kant's starry heavens and the moral law within as objects of supreme awe, we must now place the folksoul, represented particularly by the laborer; and this he attempts to in-

vestigate by various very clever experimental devices. The arm of the subject, e. g., is suspended in such a way that every slight movement can be registered on a kymograph. In one series of experiments he is told to move the arm up, down, sideways, etc.; in others, he observes and follows the movement of the director or makes a contrary movement. By this arrangement we have a method of studying the relations between involuntary and instinctive reactions and those which are conscious. Some temperaments show a strong instinct to make the opposite movement from that indicated, or at first start to make such a movement and then, as consciousness comes in, correct it according to directions. Some follow the leader exactly and implicitly and thus positive and negative results are distinguished. If there are groups of reactors they often tend to follow each other, although this involves a variation from the instructions. In this way it is possible to measure, the writer tells us, the responses of individuals to dictation and the tendency to do as others do.

Der Geruch. By H. Henning. Leipzig, J. Barth, 1916. 533 p.

The contributions of this diligent and able investigator have for years attracted the attention of psychologists, all of whom will be thankful that he has brought them together from many scattered sources into a single volume. It is perhaps hardly to the credit of psychology that this, probably the oldest and most primitive of all the senses, has hitherto been so little studied. This is partly because the facts themselves are so difficult to interpret in view of the many conflicting theories but mostly because experiments are so very hard to make with sufficient precautions that one must have a rather highly developed technic to make contributions of value here. We have hitherto had no comprehensive treatise on the subject, so that this book is not only a god-send in general and ought to be translated into English, but it cannot fail to have a significant influence in stimulating further special studies in this field.

Zur Psychologie des Schreibens. By W. Preyer. Leipzig, L. Voss, 1919. 211 p.

The son whom his late distinguished father, Prof. W. Preyer of Berlin, many years ago so carefully studied, comes forward in this volume as himself an author, very appropriately republishing and amplifying a study of his father's on graphology. Nearly all the conclusions of his father he accepts as they stood, and he is content, for the most part, to amplify and supplement. His book is a systematic consideration of such questions as how differences in handwriting originated, what can be learned from them, the analysis of synthesis of traits, the meaning of individual characteristics, the pathology of script, history of graphology, etc.

Sinnesphysiologische Untersuchungen. By Julius Pikler. Leipzig, J. Barth, 1917. 513 p.

The author here reprints, with little attempt at correlation or to avoid repetition, a number of his papers on the special senses, particularly vision, to which he has made real contributions. He entitles his volume the physiology, rather than the psychology, of the senses because he believes that these studies have led to the conclusion that the psychological phenomena are secondary in importance and some-

what incidental to, as well as conditioned by, the physiological processes that underlie them. In this thesis his position is in striking variance to current views, and most of the many repetitions which are found here are amplifications of his more or less physiological interpretation. Suggestive of these papers are the criticisms so often made upon the work of this author that he is voluminous, not to say verbose.

Die Reaktion in der Inneren Verwaltung Preussens. By L. E. Schücking. Berlin, 1918. 137 p.

This volume ought to be translated. It is a vivid and vigorous arraignment of the mechanistic and materialistic trends of Germany, led by Prussia and especially advanced by the policies of Bismarck and the philosophy of Nietzsche, to substitute *Kultur* for Culture, and tells how this was done in literature, art, education, economic, and political and, especially, the military domains, the sentiment of which is led by reserve officers. The metaphysics of the golden period of German thought has been forgotten; the splendid aesthetic idealism represented by "Rembrandt als Erzieher"—all of these have been made captive by a capitalistic and selfish policy always supported by the Junkers, so that Prussia has really seduced the Teutonic soul from its normal career, and these reactionary tendencies are by no means submerged by the war. It is a sad story of alienation, and it is significant that such a book could have been written just now by a Prussian official.

Die Feindesliebe nach dem Natürlichen und dem Uebernatürlichen Sittengesetze. By Eugen Bach. München, Kösel, 1914. 232 p.

This author writes from the standpoint of a Lutheran clergyman. He first defines love of enemies and devotes a large part of his book to tracing the recognition of this principle in savages, pagan culture, among the Jews, in the Old Testament, and among Catholics and Protestants. He gives many illustrations of the expression of this instinct but evidently writes without any knowledge of the psychoanalytic interpretations of the love of enemies, either as an instinct or as a cult.

Ueber Psychologisch Berufs-eignungs Prüfungen für Verkehrberude. By Alex. Schackwitz. Berlin, Springer, 1920. 181 p.

This young official in the Institut for medical jurisprudence at Kiel tells us how to test for different callings, and particularly the commercial callings. The author gained practical experience in testing pilots' and aviators' fitness for these functions during the war, and later he undertook comprehensive tests of street-car conductors and thus opened the way to a wider field. This book consists very largely of a sketch of the history of the industrial tests and of the generalizations to be drawn from those made thus far and the theories underlying work, which he believes must always be viséd by the subsequent record of success or failure of all those who are given positions as a result of these examinations.

BOOK NOTES

Mysticism, Freudianism, and Scientific Psychology. By KNIGHT DUNLAP. St. Louis, C. V. Mosby Co., 1920. 173 p.

The author groups Freudianism, spiritism, and Christian Science, "a siren trinity," as kindred forms of mysticism, and an "assault upon the life of the biological sciences which psychology alone is capable of warding off." In Chapter II, p. 44 to 111, he gives a résumé of some of the Freudian positions, with quotations that show that he has made more effort than most critics of the system do to understand it, which would serve as a good introduction to the beginner to a very limited portion of the field. In the long concluding chapter he presents the "foundations of scientific psychology," which is largely expository of his views of awareness, apart from its objects, as the essential thing. We are told practically nothing about any of the Freudian mechanisms except repression and *Verschiebung,* and something, of course, of the Eodipus and Electra complex; he does not discuss infantile sexuality, sublimation, ambivalence, compensation, introversion and extroversion at all. Nor is there any delineation of the profound differences between Freud, Adler, and the Zurich school. There is little allusion to the later literature and almost nothing of the applications of psychoanalysis to religion, literature, history, biography, etc. Evidently the author calls everything that deals with the unconscious, mysticism, just as the critics of Weismann called his constructions of metamicroscopic biological units, mysticism. What the latter, Christian Science, spiritism, etc., really are and mean, which he rightly admits is a part of his program, he unfortunately defers to a later publication.

In this book, but particularly in his also very well written "Personal Beauty and Racial Betterment," the careful reader cannot fail to see that he has himself been not only greatly stimulated but profoundly influenced by psychoanalysis. Beauty in woman he conceives as the possibility of motherhood, and in the second part he characterizes various anti-eugenic tendencies in the present, such as the withdrawal from the function of child-bearing of women who enter gainful occupations and those who go on the stage, etc. These views are effectively and very wholesomely presented, but the author does not seem aware of the fact that he is simply amplifying what is implicit in the whole psychoanalytic position, viz., that the chief function of the race is to transmit the sacred torch of life.

To our minds these booklets are distinctly the best of the author's always meritorious contributions to psychology, and he ought to recognize that Freudianism has been to him a very helpful mental stimulus. Moreover in the last part of his *Mysticism* book he certainly points out diversities in what he calls scientific psychology which are as many and great as those in the system he criticizes, so that the thoughtful reader will close the book with the impression that "scientific psychology" is yet far from being scientific because lacking a consensus even in so fundamental a thing as the definition and use of terms. Consciousness, which is his muse, has itself often been called first of the heterae, and those who worship at her shrine conceive everything unconscious not only as entirely outside the pale but as dangerous to scientific orthodoxy as Bolshevism is thought to be to all forms of well-organized and effective government.

The Psychology of Adolescence. By FREDERICK TRACY. N. Y., MacMillan, 1920. 246 p.

This manual describes the general characteristics of life stages, body, mind, temperament, instinct, habit, emotion, thought, will, self-consciousness, sex, duty, love, and religion. The author is a professor of ethics, and this is the predominant note of his book. While he attempts to give good practical counsels to parents and teachers, he is so interested in general questions of philosophy and dwells so lovingly upon them that those intent upon the application of it all will be disappointed because this is so delayed by rather arid discussions. The author's style is, however, excellent. It is both lucid and concise, but in subject matter no one who has at all followed the trend of thought in this field can escape the atmosphere of the commonplace. A thoughtful parent of children at this stage closed the book with the remark, "It is good and true but I knew it all before." The author nowhere in his book refers to Dr. G. S. Hall's treatise, which is the fullest we have and covers most of the field traversed here, although in the preface some Hall is mentioned with a list of others.

The bibliography of seven or eight pages is also entirely uncritical and includes much material that has little reference to anything in the author's pages. The chief shortcoming of the work, however, is that the writer seems to be entirely unaware of the vast body of new literature opened up in this field not only by the Freudians specifically but by the very active and extremely practical studies of dementia praecox and the hysterical and other nervous disturbances of girls in the "flapper" age. Can it be possible that the author commands only the English literature in this field? We notice but three references—and those of a very general nature—in any other language. A suitable handbook in this field has long been felt to be a real desideratum, but this volume does not fill the need.

With the Doughboy in France. By EDWARD HUNGERFORD. N. Y., The MacMillan Co., 1920. 291 p.

This is a story of Red Cross work by an American who saw and was part of what he describes. He tells of outfitting, transportation, the Red Cross as a department store, the movement towards the Front, the Red Cross in the field of honor, its mission, the hospitals, and the girl who went to war. The pages are enlivened by half a dozen photogravures.

The Passing Legions. By GEORGE BUCHANAN FIFE. N. Y., The MacMillan Co., 1920. 368 p.

This book tells how the American Red Cross met the American army in Great Britain, the gateway to France. It is largely a personal narrative enlivened by half a dozen page illustrations, and gives a very vivid and interesting account of the author's experiences.

The Story of the American Red Cross in Italy. By CHARLES M. BAKEWELL. N. Y., The MacMillan Co., 1920. 253 p.

This book does not propose to give a detailed statistical account of Red Cross activities in Italy for these can be found in department reports, but to tell the American people who contributed the simple tale of what their dollars did in Italy. The American personnel in Italy embraced nearly a thousand persons.

The Glories of Ireland. Ed. by JOSEPH DUNN and P. J. LENNOX. Wash., Phoenix, 1914. 357 p.

This book consists of thirty-five articles by as many different writers characterizing Ireland—its history, literature, achievements, monuments, wit, religion, society, etc. The distribution of such a book is very opportune at the present time when Ireland is so much in the eye of the world. The prominence of many of the writers is itself a guarantee not only of the veracity of the statements but of the soundness of the opinion.

A Book of Jewish Thoughts. By J. H. HERTZ. Oxford U. Press, 1920. 367 p.

The author has attempted to bring the messages of Judaism together with the memories of Jewish martyrdom and spiritual achievement throughout the ages. The first part, "I am an Hebrew," brings together quotations from a score or two of writers defining what this really means. The second part, "The People of the Book," deals with the Old Testament and the Talmud, etc. The third, "The Testimony of Nations," tells us what others think of the Jew. The fourth is The Voice of Prayer, with illustrations of the devotional instinct; and finally, The Voice of Wisdom sets forth the insights of Hebraism on the ultimate problems of life and mind.

A Survey of Musical Talent in the Public Schools. By CARL E. SEASHORE. Iowa City, Publ. by the University, 1920. 36 p.

A Study of the Mental, Pedagogical and Physical Development of the Pupils of the Junior Division of the University High School, Eugene, Oregon. University Publications, 1920. 48 p.

Condensed Guide to the Binet Tests. Part I—*Binet Tests and Diagnosis.* By S. D. PORTEUS. Part II—*Test and Test Procedure.* By S. D. PORTEUS and HELEN F. HILL. 39 p.

A Study of Personality of Defective with a Social Rating Scale. By S. D. PORTEUS. Vineland, N. J., The Training School, 1920. 22 p.

Proceedings of the Fourteenth Annual Meeting of the Association of Life Insurance Presidents, 1920. 168 p.